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**National Highway  
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**Indiana University**  
[REDACTED]

**ON-SITE AIR BAG INVESTIGATION**

**CASE NO. - 94-11**  
**FLEET - RENTAL VEHICLE**  
**LOCATION - [REDACTED] INDIANA**  
**ACCIDENT DATE - [REDACTED] 1994**

**Submitted By:**

[REDACTED]  
**Senior Staff Associate**

[REDACTED] **1994**

**Contract Number: DTNH22-94-D-17058**

**Prepared for:**

**U.S. Department of Transportation**  
**National Highway Traffic Safety Administration**  
**National Center for Statistics and Analysis**  
**Washington, D.C. 20590**

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**The crash investigation process is an inexact science which requires that physical evidence such as skid marks, vehicular damage measurements, and occupant contact points be coupled with the investigator's expert knowledge and experience of vehicle dynamics and occupant kinematics in order to determine the pre-crash, crash, and post-crash movements of involved vehicles and occupants.**

**Because each crash is a unique sequence of events, generalized conclusions cannot be made concerning the crashworthiness performance of the involved vehicle(s) or their safety systems.**

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16. Abstract <p>This report covers an on-site investigation of an air bag deployment crash that involved a 1994 Cutlass Ciera S and a large [37 cm (14.6 in)] tree. The Cutlass Ciera (case vehicle) was traveling west in the westbound lane of a two-lane, undivided State highway and had just crested a hill prior to entering a left-hand curve. The case vehicle went off the roadway and onto the north roadside where the right side of the case vehicle sideswiped a mailbox {first impact}, a newspaper holder {second impact}, and then struck a sign post {third impact}. The case vehicle re-entered the roadway in the curve and crossed both the southwestbound and northeastbound lanes prior to departing the roadway onto the east roadside. The case vehicle continued south-southeast, down a steep incline, and impacted a large tree, located on the east side of the roadway, with its front right causing the case vehicle's driver side supplemental restraint system (air bag) to deploy. The case vehicle rotated clockwise after impact coming to rest 1.5 meters (4.9 feet) east of the struck tree heading west-northwest. The case vehicle's driver (17 year-old female) was not wearing the available, automatic, three-point lap and shoulder belt and sustained, according to her interview and medical records, moderate injuries which included: a dislocated right hip and right radial head (i.e., elbow); fractures of her right talus (i.e., ankle), proximal ulna, and ninth rib; and numerous superficial lacerations and abrasions to her chin, right knee, and right shin.</p>					
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# **TRC/IU ON-SITE AIR BAG INVESTIGATION**

**TRC/IU CASE NO. 94-11**

**FLEET - PRIVATE VEHICLE  
LOCATION - ██████████, INDIANA**

## **SUMMARY**

This report concerns a motor vehicle crash involving an air bag equipped 1994 Oldsmobile Cutlass Ciera S and a large [37 cm (14.6 in)] tree occurring on ██████████ 1994 at ██████████ a.m. near ██████████, Indiana on a State road. This crash is of special interest because the driver side supplemental restraint system (air bag) most likely saved the driver's life.

The Cutlass Ciera was traveling west in the westbound lane of a two-lane, undivided State highway and had just crested a hill prior to entering a left-hand curve. The Ciera went off the roadway and onto the north roadside where the right side of the Ciera sideswiped a mailbox {first impact}, a newspaper holder {second impact}, and then struck a sign post {third impact}. The Ciera re-entered the roadway in the curve and crossed both the southwestbound and northeastbound lanes prior to departing the roadway onto the east roadside. The Ciera continued south-southeast, down a steep incline, and impacted a large tree, located on the east side of the roadway, causing the Ciera's driver side supplemental restraint system (air bag) to deploy. The Ciera rotated clockwise after impact and came to rest 1.5 meters (4.9 feet) east of the struck tree heading west-northwest.

The right passenger area (above the beltline) of the Ciera impacted, first, the mailbox and, second, the newspaper holder. Next, the right side of the Ciera sideswiped a sign post and a school bus-related subwarning sign on the post. Finally, the front right of the Ciera impacted the large tree. The CDCs for the Ciera were determined to be: 12-RPGS-1 (for impacts one and two), 12-RZAS-1, and 12-FREW-5. The CRASHPC reconstruction program, damage only algorithm, was used on the highest severity impact to the Ciera. The Total, Longitudinal, and Lateral Delta Vs are respectively: 71 k.p.h. (44 m.p.h.), -71 k.p.h. (-44 m.p.h.), and 0 k.p.h. (0 m.p.h.).

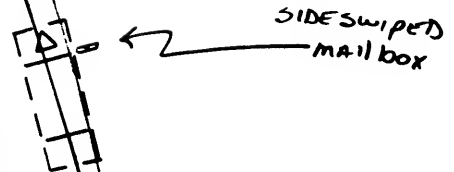
The 1994 Oldsmobile Cutlass Ciera S was equipped with a driver supplemental restraint system (air bag) which deployed as a result of the frontal impact with the large tree. The case vehicle's driver (17 year-old female) was not wearing the available, automatic, three-point lap and shoulder belt. She sustained, according to her interview and medical records, moderate injuries which included: a dislocated right hip and right radial head (i.e., elbow); fractures of her right talus (i.e., ankle), proximal ulna, and ninth rib; and numerous superficial lacerations and abrasions to her chin, right knee, and right shin. The driver of the Ciera was listed on the Police Accident Report as sustaining an "A" (incapacitating) injury as a result of this crash.

ACCIDENT SCHEMATIC

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TRC/TU CASE NO. 94-11

Scale: 1 cm = 2.5 m  
(prior to reduction @ 92%)

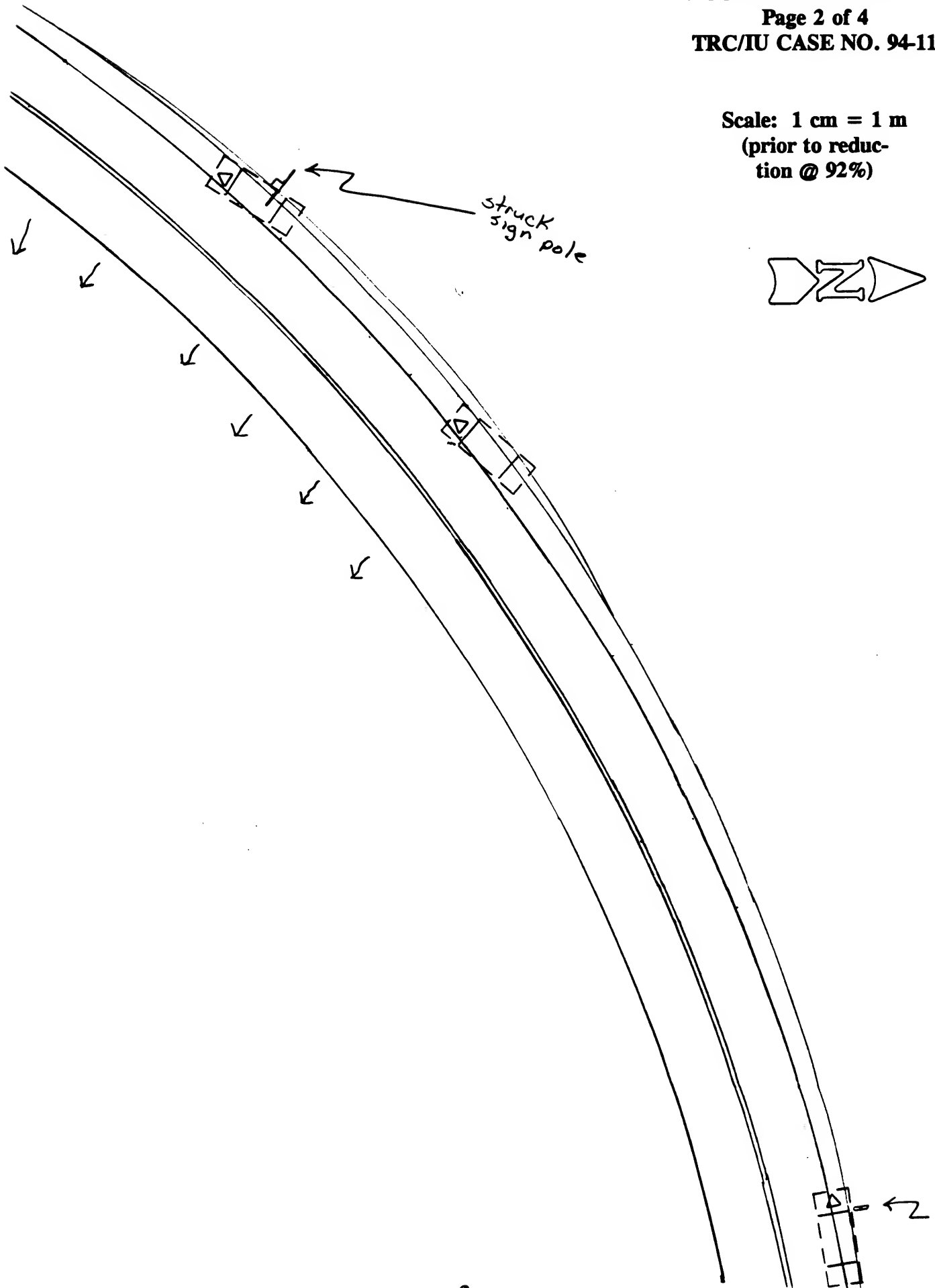


**ACCIDENT SCHEMATIC**

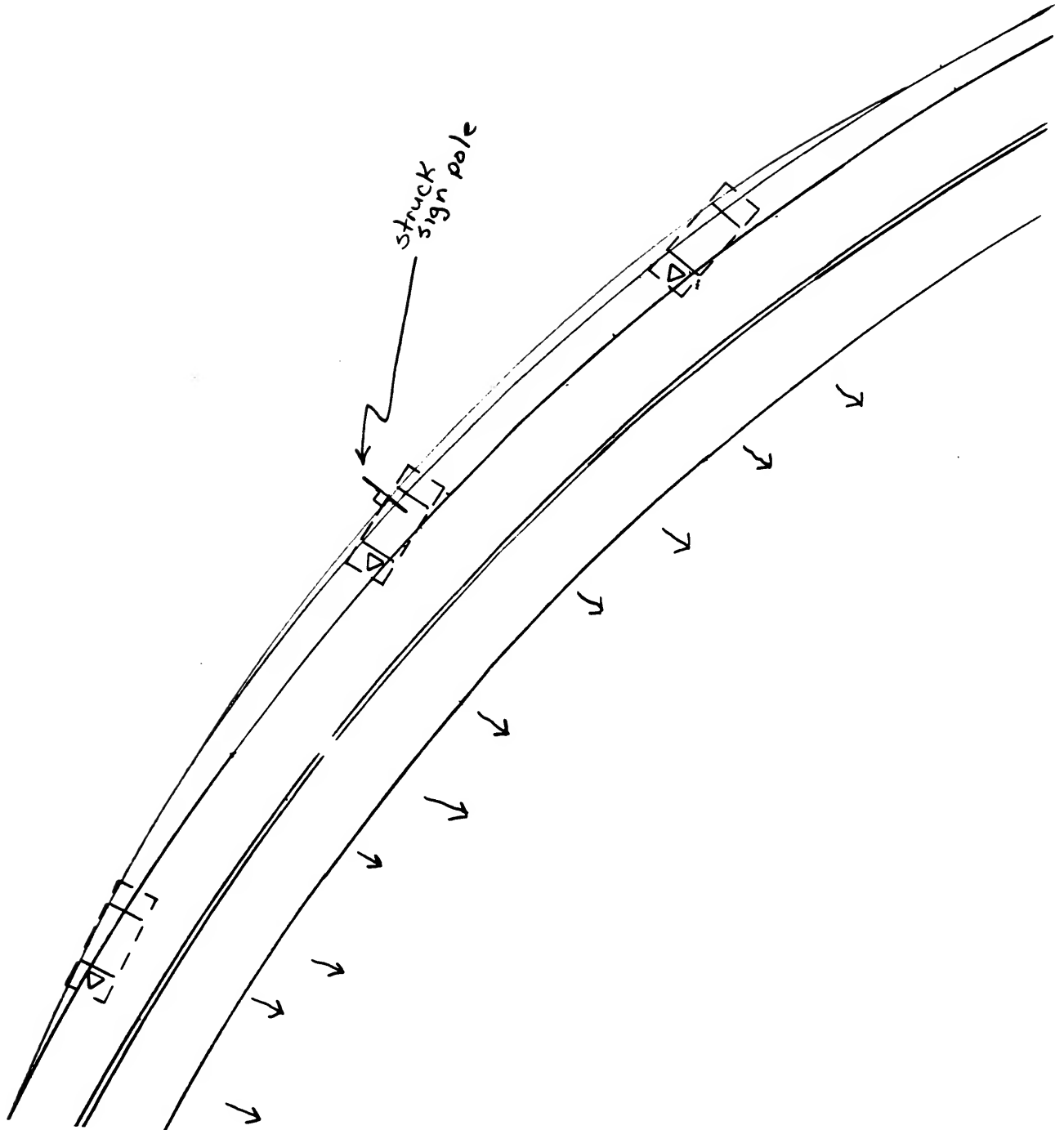
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**TRC/IU CASE NO. 94-11**

**Scale: 1 cm = 1 m  
(prior to reduction @ 92%)**



Scale: 1 cm = 2.5 m  
(prior to reduction @ 92%)

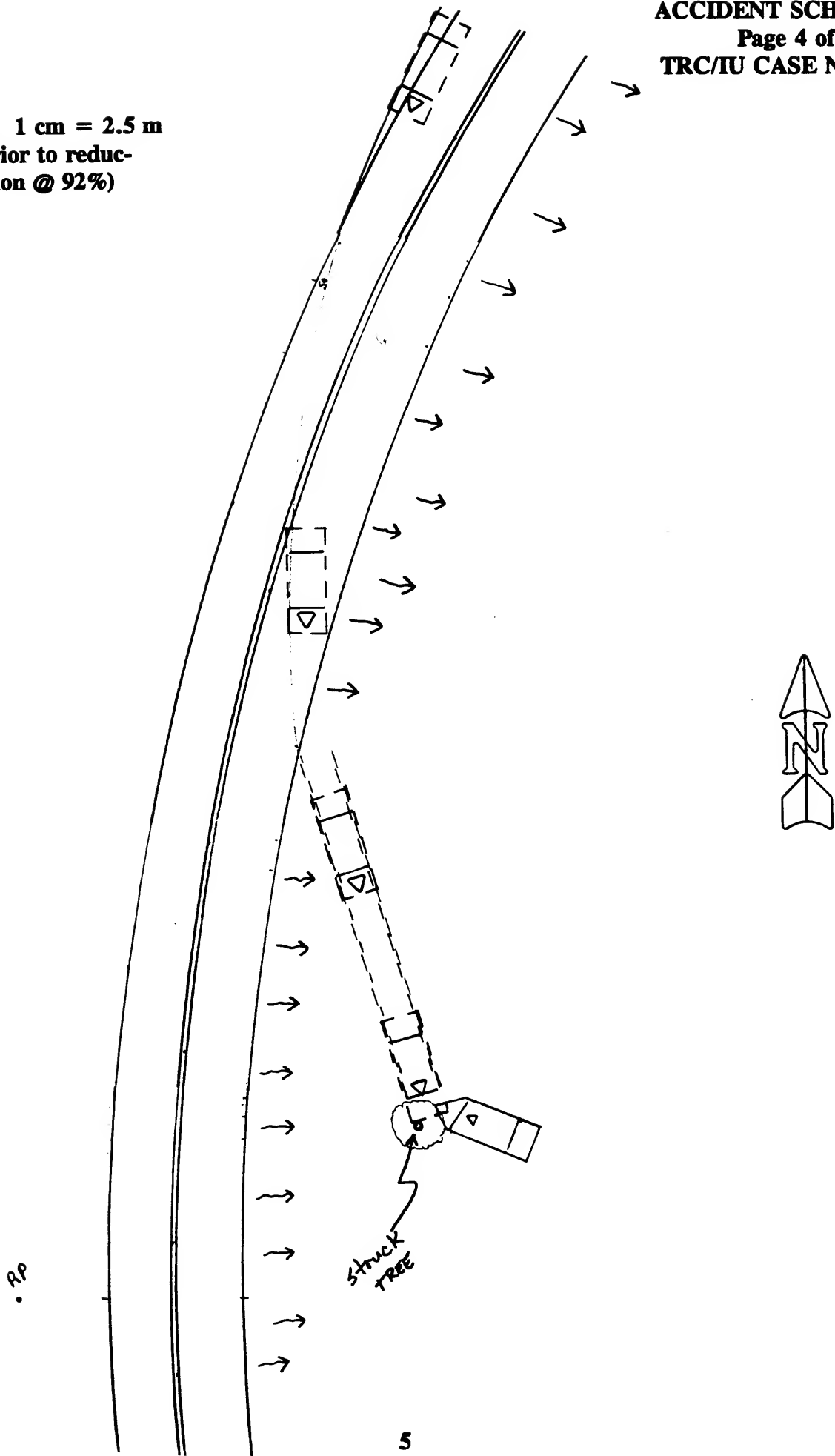


ACCIDENT SCHEMATIC

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TRC/TU CASE NO. 94-11

Scale: 1 cm = 2.5 m  
(prior to reduction @ 92%)



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# TRC/IU ON-SITE AIR BAG INVESTIGATION

TRC/IU CASE NO. 94-11

FLEET - PRIVATE VEHICLE  
LOCATION - [REDACTED], INDIANA

## ACCIDENT DATA

Location/Street: State Road  
City/Township: [REDACTED] County, [REDACTED] near [REDACTED], Indiana  
Area/Type: Rural, residential  
Accident Date/Time: [REDACTED] 1994, @ [REDACTED] a.m.  
Investigating Police Agency: [REDACTED] Sheriff Department  
Accident Type: Car - ran-off-road  
Occupant Injury Severity (air bag vehicle): Fractured ulna and talus (AIS-2)

## AMBIENT CONDITIONS

Light Conditions: Dark  
Weather Condition: Clear  
Precipitation: None  
Road Surface: Dry

## ROADWAY

### Case Vehicle

Location: State road  
Number of Travel Lanes: two-lanes, undivided  
Width: 3.1 meters (10.2 feet)  
Surface Type: Asphalt  
Median: None  
Shoulders: Approximately 1 meter (3.1 feet) at location of first harmful event with mailbox, but only 0.2 meters (0.7 feet) elsewhere  
Vertical alignment: 4 % negative grade to the west, west of hillcrest

**ROADWAY (CONT'D.)****Case Vehicle**

**Horizontal alignment:** Curve left, west of hillcrest, straight east of hillcrest

**Estimated Coefficient of Friction:** .70 roadway, .21 roadside (including slope)

**Traffic Density:** Low

**TRAFFIC CONTROLS****Case Vehicle**

**Signals:** None

**Signs:** Curve warning sign and speed limit advisory sign east of hillcrest

**Markings:** Double solid yellow center lines, white fog lines on north and south road edges

**Speed Limit:** 72 k.p.h. (45 m.p.h.) with reduce speed advisory to: 56 k.p.h. (35 m.p.h.)

**VEHICLES****Case Vehicle**

**Year:** 1994

**Make:** Oldsmobile

**Model:** Cutlass Ciera S

**Body Type:** 4-door sedan

**V.I.N.** 1G3AG55M0R6——

**Color:** Burgundy

**Mileage:** 22,848 km (14,197 miles)

**Engine:** 3.1 liters, V-6

**Transmission:** 4-speed automatic

**Steering:** Power-assisted, rack-and-pinion

**Brakes:** Power-assisted, 4-wheel disc

**Padding:** Steering wheel and hub, sunvisors, dash, "A"-pillars, side door surfaces



**VEHICLES (CONT'D.)**

<b>Active Restraints:</b>	<b>3-point, lap and shoulder belts in rear outboard seating positions; lap belt only at front and rear center positions</b>
<b>Passive Restraints:</b>	<b>Factory installed driver supplemental restraint system (air bag) and 3-point, door-mounted, lap and shoulder belts in front outboard seating positions</b>
<b>Defects:</b>	<b>None</b>
<b>Fleet:</b>	<b>Private vehicle</b>
<b>Tow status:</b>	<b>Towed due to damage</b>

**VEHICLE DAMAGE****EXTERIOR****Case Vehicle****Deployment Impact**

<b>Event number:</b>	<b>Four</b>
<b>Object Struck:</b>	<b>Large tree [37 centimeters (14.6 inches)]</b>
<b>Damage location</b>	
<b>Damaged Plane:</b>	<b>Front</b>
<b>Vertical Location</b>	
<b>On Plane:</b>	<b>Bumper to top of hood</b>
<b>Direct Begins:</b>	<b>10 cm (3.9 in) in from right bumper corner</b>
<b>Length Direct:</b>	<b>42 cm ( 16.5 in)</b>
<b>Field L:</b>	<b>48 cm ( 18.9 in)</b>
<b>C<sub>1</sub>:</b>	<b>18 cm ( 7.1 in)</b>
<b>C<sub>2</sub>:</b>	<b>45 cm ( 17.7 in)</b>
<b>C<sub>3</sub>:</b>	<b>64 cm ( 25.2 in)</b>
<b>C<sub>4</sub>:</b>	<b>141 cm ( 55.5 in)</b>
<b>C<sub>5</sub>:</b>	<b>139 cm ( 54.7 in)</b>
<b>C<sub>6</sub>:</b>	<b>137 cm ( 53.9 in)</b>
<b>D:</b>	<b>+47 cm (+18.5 in)</b>
<b>Maximum Crush:</b>	<b>141 cm ( 55.5 in)</b>
<b>Location:</b>	<b>C<sub>4</sub></b>

<b>CDC:</b>	<b>12-FREW-5</b>
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<b>Damaged Components:</b>	<b>Front bumper, grille, front right headlight assembly, right front wheel assembly and fender, right "A"-pillar, and right uni-body frame</b>
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**1st Nondeployment Impact**

<b>Event number:</b>	<b>First</b>
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**VEHICLE DAMAGE (CONT'D.)<sup>1</sup>****EXTERIOR (Cont'd.)****Case Vehicle****Object Struck:****Mailbox****Damage location****Damaged Plane:****Right****Vertical Location****On Plane:****Above beltline****Direct Begins:****Unknown<sup>1</sup>****Length Direct:****Unknown<sup>1</sup>****Field L:****15 cm ( 5.9 in) {Measured between the back of the right front door frame and the front of the right rear door frame.}****C<sub>1</sub>:****Not applicable****C<sub>2</sub>:****Not applicable****C<sub>3</sub>:****Not applicable****C<sub>4</sub>:****Not applicable****C<sub>5</sub>:****Not applicable****C<sub>6</sub>:****Not applicable****D:****Unknown<sup>1</sup>****Maximum Crush:****2 cm ( 0.8 in)****Location:****Right "B"-pillar****CDC:****12-RPGS-1****Damaged Components:****Right side door frames, right "B"-pillar, and most likely the right outside rearview mirror****2nd Nondeployment Impact****Event number:****Second****Object Struck:****Newspaper box****Damage location****Damaged Plane:****Right****Vertical Location****On Plane:****Above beltline****Direct Begins:****Unknown<sup>1</sup>****Length Direct:****Unknown<sup>1</sup>****Field L:****15 cm ( 5.9 in) {Measured between the back of the right front door frame and the front of the right rear door frame.}****C<sub>1</sub>:****Not applicable****C<sub>2</sub>:****Not applicable****C<sub>3</sub>:****Not applicable****C<sub>4</sub>:****Not applicable**


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<sup>1</sup> The right outside rearview mirror was most likely also involved, but was not available for examination. Therefore, the length of direct damage, the location where the direct began, and the D measurement cannot be determined.

**VEHICLE DAMAGE (CONT'D.)****EXTERIOR (Cont'd.)****Case Vehicle****2nd Nondeployment Impact (Cont'd.)**

<b>C<sub>5</sub>:</b>	<b>Not applicable</b>
<b>C<sub>6</sub>:</b>	<b>Not applicable</b>
<b>D:</b>	<b>Unknown<sup>1</sup></b>
<b>Maximum Crush:</b>	<b>2 cm ( 0.8 in)</b>
<b>Location:</b>	<b>Right "B"-pillar</b>
<b>CDC:</b>	<b>12-RPGS-1</b>
<b>Damaged Components:</b>	<b>Right side door frames, right "B"-pillar, and most likely the right outside rearview mirror</b>

**3rd Nondeployment Impact<sup>2</sup>**

<b>Event number:</b>	<b>Third</b>
<b>Object Struck:</b>	<b>Sign post and SCHOOL BUS subwarning sign</b>
<b>Damage location</b>	
<b>Damaged Plane:</b>	<b>Right</b>
<b>Vertical Location</b>	
<b>On Plane:</b>	<b>Midline between sill and just above beltline</b>
<b>Length Direct:</b>	<b>291 cm (114.6 in)</b>
<b>Direct Begins:</b>	<b>25 cm ( 9.8 in) rearward of right rear axle</b>
<b>Field L:</b>	<b>292 cm (115.0 in)</b>
<b>C<sub>1</sub>:</b>	<b>Unknown<sup>2</sup></b>
<b>C<sub>2</sub>:</b>	<b>Unknown<sup>2</sup></b>
<b>C<sub>3</sub>:</b>	<b>Unknown<sup>2</sup></b>
<b>C<sub>4</sub>:</b>	<b>Unknown<sup>2</sup></b>
<b>C<sub>5</sub>:</b>	<b>Unknown<sup>2</sup></b>
<b>C<sub>6</sub>:</b>	<b>Unknown<sup>2</sup></b>
<b>D:</b>	<b>-12 cm ( -4.7 in)</b>
<b>Maximum Crush:</b>	<b>8 cm ( 3.1 in)</b>
<b>Location:</b>	<b>Right rear door/"C"-pillar area at beltline</b>
<b>CDC:</b>	<b>12-RZAS-1</b>
<b>Damaged Components:</b>	<b>Right: front and rear door panels, quarter panel, and rear wheel cover and rim</b>

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<sup>2</sup> No C-measurements were taken because this side impact's damage was masked from the fourth impact with the large tree which caused induced damage rearward of the right front door.

**VEHICLE DAMAGE (CONT'D.)****INTERIOR****Case Vehicle****Damaged Components:**

Whole right half of dash, and the passenger side of the front split bench was pushed backward into the rear passenger occupant space.

**Other Evidence of  
Occupant Contact:**

Left lower dash panel broken out from right knee contact, hair on sunvisor, smudge on left dash, and deployed air bag (see **SELECTED PHOTOGRAPHS**, Photographs # 61, # 59, and # 60, pages 30-31)

**Passive Belt Restraint  
System Failures:**

None

**Seat Performance  
Failures:**

None

**REPAIR****Cost Estimate:**

Unknown: totaled and salvaged

**VEHICLE VELOCITY ESTIMATES****Highest Delta "V"****Case Vehicle****Reconstruction Program:**

CRASH3PC

**Program Algorithm:**

Damage only

**Travel Speed:**

80 k.p.h. ( 50 m.p.h.)

Conservative estimate

**Total Delta "V":**

71 k.p.h. ( 44 m.p.h.)

**Longitudinal Delta "V":**

-71 k.p.h. (-44 m.p.h.)

**Lateral Delta "V":**

0 k.p.h. ( 0 m.p.h.)

**COLLISION SEQUENCE****Pre-Crash:**

According to the scene inspection, the Police Accident Report, and the driver interview, the case vehicle (Ciera) was traveling west in the west-bound lane of a two-lane, undivided State highway and had just crested a hill prior to entering a left-hand curve. According to the scene inspection and the Police Accident Report, the case vehicle was attempting to continue in its direction of travel when it went off the roadway and onto the north roadside. The driver of the case vehicle made no pre-crash avoidance maneuvers. The case vehicle continued straight ahead prior to impact. The crash was initiated on the north roadside.

**Crash:**

According to the physical evidence at the scene and the vehicle inspection, the right "A"- and "B"-pillars of the case vehicle initially sideswiped a

**COLLISION SEQUENCE (CONT'D.)****Crash: (Cont'd.)**

mailbox (first harmful event) and a plastic newspaper holder (second event). Next, the case vehicle continued in a northwesterly direction and began to rotate slightly counterclockwise because of: (1) the side-to-side coefficient-of-friction differences between the left {0.70} and right {0.60} side tires, (2) curvature of the road {curve left}, and (3) the driver's left steering input. The case vehicle continued on striking one of the two metal sign support posts and a subwarning sign (i.e., NEXT 1 MILE) for a warning sign (i.e., WATCH FOR SCHOOL BUS). Based on the scene inspection, the case vehicle continued forward, approximately 32 meters (105 feet), prior to re-entering the roadway in the curve and crossing both the southwestbound and northeastbound lanes prior to its departing the roadway onto the east roadside. The case vehicle continued south-southeast—approximately 19 meters (62 feet), down a steep incline—approximately 39 percent, and impacted a large tree, 37 centimeters (14.6 inches) in diameter, located on the east side of the roadway. The front right corner impacted the tree causing the case vehicle's driver side supplemental restraint system (air bag) to deploy. According to the police photographs, the physical evidence at the scene, and the vehicle inspection, the case vehicle rotated approximately 120 degrees clockwise after impact came to rest 1.5 meters (4.9 feet) east of the struck tree heading west-northwest.

**Post-Crash:**

**Occupants:** According to the Police Accident Report, a bystander/eyewitness, and the emergency medical technicians, the driver of the case vehicle remained inside the vehicle at final rest. She was found conscious and was unable to exit the case vehicle because of her injuries. The case vehicle's driver was not wearing the available, automatic, three-point lap and shoulder belt.

**Police:** The investigating police agency was notified of the accident within one minute and arrived on-scene within seven minutes. Traffic control procedures were established and emergency medical, fire, and towing services were called to assist.

**Rescue:** According to the emergency medical technician's report, the case vehicle driver's right foot was caught under the dash. After freeing her foot, the driver was transported by ambulance to a medical facility where she was hospitalized. According to her interview and medical records, she sustained moderate injuries which included: a dislocated right hip and right radial head (i.e., elbow); fractures of her right talus (i.e., ankle), proximal ulna, and ninth rib; and numerous superficial lacerations and abrasions to her chin, right knee, and right shin. The case vehicle driver's blood alcohol content was reported as 141 mg/dl.

**Removal:** Following the police investigation, the case vehicle was towed from the scene.

**HUMAN FACTORS/OCCUPANT DATA****Case Vehicle**

**Driver:** 17 year-old, female  
**Height:** 175 centimeters (69 inches)  
**Weight:** 61 kilograms (135 pounds)  
**Occupation:** High school student  
**Passive Belt Restraint System/Usage:** 3-point lap and shoulder/not used  
**Usage Source:** Driver, Police Accident Report, Emergency medical technicians  
**Eye glasses/contacts:** Glasses  
**Vehicle Familiarity:** Very familiar  
**Route Familiarity:** Daily  
**Trip Plan:** Going into town  
**Manner of Leaving Scene:** Ambulance  
**Type of Medical Treatment:** Hospitalized

**DRIVER INJURIES<sup>3</sup>**

<b><u>Description of Injury</u></b>	<b><u>A.I.S.</u></b>	<b><u>Source of Data</u></b>	<b><u>Injury Mechanism</u></b>	<b><u>Certainty</u></b>
Fracture, nondisplaced, right ninth rib	450212.1,1	2	Steering wheel rim	{Probable}
Fracture <sup>3</sup> , proximal, right ulna	753202.2,1	2	Left dash	{Certain}
Dislocation <sup>3</sup> to head of right radius	750630.1,1	2	Left dash	{Certain}
Dislocation right hip	850610.2,1	2	Left dash	{Certain}
Fracture right talus	853200.2,1	2	Toe pan	{Certain}
Abrasion chin	290202.1,8	2	Air bag	{Certain}
Lacerations, superficial, chin	290602.1,8	2	Air bag	{Probable}
Abrasions right knee and shin	890202.1,1	2	Left dash	{Certain}

<sup>3</sup> MONTEGGIA'S FRACTURE: fracture in the proximal half of the shaft of the ulna, with dislocation of the head of the radius. Sometimes called parry fracture because it is often caused by attempts to fend off blows with the forearm. An associated noncoded lesion occurred to the interosseus nerve. INTEROSSEUS ANTEBRACHII POSTERIOR: posterior interosseous nerve of forearm: *origin*, continuation of deep branch of radial nerve; *distribution*, abductor pollicis longus, extensors of the thumb and second finger, and wrist and intercarpal joints; *modality*, motor and general sensory. Source: [REDACTED]

**DRIVER INJURIES (CONT'D.)**

<u>Description of Injury</u>	<u>A.I.S.</u>	<u>Source of Data</u>	<u>Injury Mechanism</u>	<u>Certainty</u>
Lacerations, superficial, right knee and shin	890602.1,1	2	Left dash	{Certain}
Contusion right ankle	890402.1,1	3	Foot controls	{Probable}
Contusion right eye	297402.1,1	7	Air bag	{Certain}

**DRIVER KINEMATICS**

The initial posture of the case vehicle driver is not known with certainty since the driver could only recall that she was sitting up straight with her back against the seatback. According to the case vehicle driver she thought that her left hand was on the steering wheel but could not recall how her right arm was positioned. Based on the pre-crash environment (i.e., hillcrest preceding a left-hand curve) and the physical evidence present at the scene, it is most likely that the driver never realized she was departing the roadway until after the initial two impacts had occurred.

Based on the physical evidence present at the scene (i.e., the yaw marks from the right side tires in the grass) the case vehicle driver realized following the initial two impacts that she had gone off the road on the right (north) and steered to the left to get back onto the roadway. She was most likely leaning to her right with both hands on the steering wheel at this point. The driver most likely stayed in this position while striking one of the two metal sign support posts and a subwarning sign (i.e., NEXT 1 MILE) for a warning sign (i.e., WATCH FOR SCHOOL BUS) prior to crossing over to the south side of the roadway. Upon crossing the roadway the driver was able to straighten up, leaning over to her left as she went down the steep 39% incline. In addition, the case vehicle driver most likely leaned forward some as the vehicle traveled down the incline.

During first three impacts the case vehicle driver's trajectory was most likely unchanged. First, the impacts were minor and, second, no passive restraints altered her trajectory (i.e., she was not using her available three-point belts and the air bag had not yet deployed).

Based on the vehicle and scene inspections, the case vehicle's primary impact with the large tree not only deployed the driver's side air bag but *propelled/thrusted* the driver forward, slightly leftward (due to the clockwise rotation), and upward. The case vehicle driver was pitched directly into and contacted the deployed air bag and driver side sunvisor; in addition, she probably contacted the windshield header. Due to the driver's short stature, the windshield was not contacted. Based on the large amount of crush to the front right of the case vehicle, the driver's nonuse of her available, passive restraints, and the absence of extensive chest trauma, the case vehicle's supplemental restraint (air bag) appears to have performed as designed by absorbing as much energy as possible and, ultimately, saving her life.

As the case vehicle continued to rotate clockwise off the large tree, coming to final rest, the driver--based on the vehicle and scene inspection and an eye witness who was the first to observe the driver, was leaning back and to the left next to the door and B-pillar.

**AIR BAG SYSTEM****DRIVER AIR BAG**

<b>Deployment Threshold:</b>	<b>13-23 k.p.h. (8-14 m.p.h.)</b>
<b>Airbag Diameter (seam-to-seam, deflated):</b>	<b>67 centimeters (26.4 inches)</b>
<b>Number of Vent Holes:</b>	<b>Two</b>
<b>Vent Hole Diameter:</b>	<b>2 centimeters (0.8 inches)</b>
<b>Vent Hole Clock Positions:</b>	<b>Three and Nine o'clock</b>
<b>Generant Residue:</b>	<b>None detected</b>



**ACCIDENT COLLISION MEASUREMENT TABLE**



# ACCIDENT COLLISION MEASUREMENT TABLE

Primary Sampling Unit Number 10

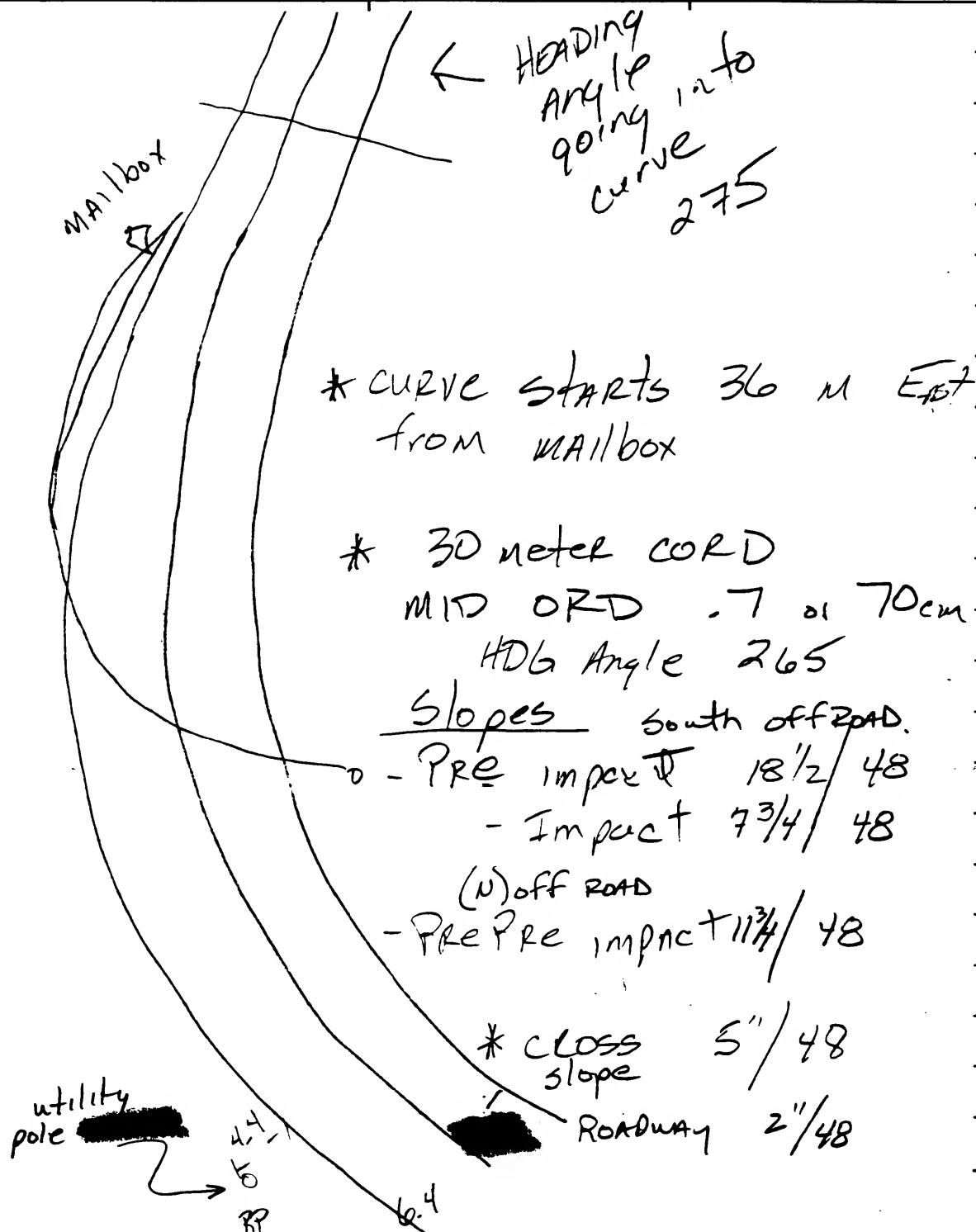
Case Number—Stratum 9411

ACCIDENT COLLISION DIAGRAM		CRASH DATA
<b>LEVEL I</b> <b>PHYSICAL EVIDENCE ABSENT</b>  To be accomplished when there is no physical evidence present at the scene:  <ul style="list-style-type: none"> <li>approximate vehicle orientation at impact and final rest</li> <li>applicable road/roadway delineation (e.g., curbs/edge lines, lane markings, median markings, pavement markings, etc.)</li> <li>applicable traffic controls (e.g., speed limit)</li> <li>north arrow placed on diagram</li> <li>sketch required</li> </ul>	<b>LEVEL II (Cont'd)</b> physical evidence is present:  <ul style="list-style-type: none"> <li>document reference point and reference line relative to physical features present at the scene</li> <li>scale documentation of all accident induced physical evidence</li> <li>scaled documentation of all roadside objects contacted</li> <li>roadway surface type and condition of applicable roadways</li> <li>grade measurements for all applicable roadways and at location of rollover initiation</li> <li>scaled representations of the vehicle(s) at pre-impact, impact, and final rest based upon either:                a) physical evidence, or                b) reconstructed accident dynamics             </li> </ul>	VEH. #1    VEH. #2    VEH. #3  Heading Angle <u>275</u> _____  Surface Type <u>Bit</u> _____  Surface Condition <u>Dry</u> _____  Grade (v/h) Measurement (between impact and final rest) <u>7 7/8"</u> _____  Grade (v/h) Measurement (at location of rollover initiation) <u>N/A</u> _____
<b>LEVEL II</b> <b>PHYSICAL EVIDENCE PRESENT</b>  In addition to the level I tasks noted above, the following must be accomplished when		

Reference Point: Utility Pole    Reference line: \_\_\_\_\_

Item	Distance and Direction from Reference Point	Distance and Direction from Reference Line
RP	0	4.4 s
struck tree (37cm DIAM)	8.6 E	8.2 s
FRP LF	8.5 E	9.8 s
FRP LR	7.6 E	12.6 s
FRP RR	9.3 E	13.1 s
impact RF	10.4 E	9.2 s
MID. Left	20.7 E	2.2 s
SKID off ROAD	26.5 E	@
MARK on FOG Line	52.3 E	@
SIGN struck	84 E	1.9 - 2.5 N
TIREMARK	84 E	1.6 N
RR SKID IN GRASS	84 E	1.9 N
RF SKID	99.2 E	1.5 N

Item	Distance and Direction from Reference Point	Distance and Direction from Reference Line
RF SKID	114.2 E	1.3 N
RR SKID	114.2 E	1.5 N
RR start	112.5 E	1.2 N
RR END	71.3 E	1.3 N
RF SKID start	129.2 E	1 N




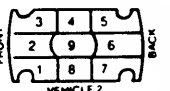
**Appendix A:**

**POLICE ACCIDENT REPORT**

State Form: 23558(R3/7-91) Stock 302

**Mail to: Indiana State Police, Crash Records Section**

Crash I.D. No

State Form: 23558(R3/7-91) Stock 302										Crash I.D. No.																																																																											
Mail to: Indiana State Police, Crash Records Section																																																																																					
Date of Crash MONTH DAY YEAR		Day of Week		Actual Local Time		<input checked="" type="checkbox"/> AM <input type="checkbox"/> PM		No Motor Vehicles		No Injured		No Dead		No Trailers																																																																							
County				Township				City/Town or Nearest City/Town																																																																													
Inside Corporate Limits?		Property?		<input type="checkbox"/> DNR		Distance and Direction From Corporate Limits																																																																															
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input checked="" type="checkbox"/> Private <input type="checkbox"/> Other		Miles North Miles South Miles East Miles West																																																																																	
Road Crash Occurred On										Intersecting Road/Mile Marker/Interchange																																																																											
State Road East																																																																																					
If not at intersection, number of feet from										Nearest Intersecting Road/Mile Marker/Interchange																																																																											
500 West										Road																																																																											
Driver's Name (Last, First, MI)										Driver's Name (Last, First, MI)																																																																											
[Redacted]										[Redacted]																																																																											
Address (Street, City, State, Zip)										Address (Street, City, State, Zip)																																																																											
[Redacted] IN										[Redacted]																																																																											
Apparent Phys Stat (enter no)		Sex		Date of Birth		YEAR		Arrested?		Apparent Phys Stat (enter no)		Sex		Date of Birth		YEAR		Arrested?																																																																			
2		F		MONTH DAY		11		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																																																													
Driver's License No										Driver's License No																																																																											
[Redacted]										[Redacted]																																																																											
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OP		IN		A																																																																																	
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Veh Type (enter no)		Lic Yr		License No		Lic State		Veh Type (enter no)		Lic Yr		License No		Lic State		Veh Type (enter no)		Lic Yr																																																																			
1		94		[Redacted]		IN																																																																															
Veh Use (enter no)		Speed Limit		Fuel Tax No		Veh Use (enter no)		Speed Limit		Fuel Tax No		Veh Use (enter no)		Speed Limit		Fuel Tax No		Veh Use (enter no)																																																																			
1		45																																																																																			
Direction of Travel		No Occupants		Fire?		No Axles		Transporting Hazardous Mat		Direction of Travel		No Occupants		Fire?		No Axles		Transporting Hazardous Mat																																																																			
West		1		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		2		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																																																					
Towed To										Towed To																																																																											
[Redacted]										[Redacted]																																																																											
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Address (Street, City, State, Zip)										Address (Street, City, State, Zip)																																																																											
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[Redacted]		[Redacted]		[Redacted]		[Redacted]		[Redacted]		[Redacted]		[Redacted]		[Redacted]		[Redacted]		[Redacted]																																																																			
INITIAL IMPACT		Areas Damaged (Multiples)		OTHER PROPERTY (INCLUDE CARGO)		Name of Object		OWNER'S NAME AND ADDRESS		Damage Est (use chart)		Direction		Street/Highway		Arrested?		Apparent Phys Stat (enter no)																																																																			
V1 3 V2 2		<div style="display: flex; justify-content: space-around;"> <div>  <p>VEHICLE 1</p> </div> <div>  <p>VEHICLE 2</p> </div> </div>		<input checked="" type="checkbox"/> Undercarriage <input type="checkbox"/> Trailer <input type="checkbox"/> None		Signal Pole		State of Indiana		#1								<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Enter No																																																																	
DAMAGE EST																																																																																					
V1 6 V2 2																																																																																					
What was pedestrian doing before crash? Enter No 1 Not in roadway 2 Standing in roadway 3 Playing in roadway 4 Pushing or working on vehicle 5 Other working in roadway 6 Walking in roadway with traffic 7 Walking in roadway against traffic 8 Getting on/off vehicle 9 Getting on/off school bus 10 Crossing or entering not at intersection 11 Crossing or entering at intersection 12 Other																																																																																					
Pedestrian Traffic Control? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																																																																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td> </tr> <tr> <td></td><td></td><td></td><td>14</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td colspan="5">DRIVER OF VEHICLE 1 (as listed above)</td> <td colspan="9">812123</td> <td colspan="5">21141</td> </tr> <tr> <td colspan="5">DRIVER OF VEHICLE 2 (as listed above)</td> <td colspan="9"></td> <td colspan="5"></td> </tr> </table>																				16	17	18	19	20	21	22	23	24	25	26	27	28	29				14											DRIVER OF VEHICLE 1 (as listed above)					812123									21141					DRIVER OF VEHICLE 2 (as listed above)																		
16	17	18	19	20	21	22	23	24	25	26	27	28	29																																																																								
			14																																																																																		
DRIVER OF VEHICLE 1 (as listed above)					812123									21141																																																																							
DRIVER OF VEHICLE 2 (as listed above)																																																																																					

Diagram

Indicate NORTH  
by an arrow

## NARRATIVE (Refer to Vehicle by Number)

Driver #1 stated she didn't remember anything.  
Diagram will follow by Deputy [REDACTED]

D1 Insured By

D2 Insured By

Other Participant(s) Name, Address (etc.)

Name of Witness No. 1

Address

Location at Time of Crash

Name of Witness No. 2

Address

Location at Time of Crash

Name of Person Arrested

I.C. Code(s)

Name of Person Arrested

I.C. Code(s)

INVESTIGATION

Time Notified  
0241☒ AM  
☐ PMTime Arrived  
0248☒ AM  
☐ PM

Other Location of Investigation

[REDACTED] Hospital

Investigation Complete

☐ Yes ☐ No

Photos Taken

☒ Yes ☐ No

Assisting Officer

[REDACTED]

Agency

[REDACTED] Co. Sheriff's Dept.

Date of Report

[REDACTED] 94

Arresting Officer

[REDACTED]

I.D. No.

[REDACTED]

Agency

[REDACTED] Co. Sheriff's Dept.

Driver's License

Form Furnished

☒ D1☐ D2

Investigating Officer's Signature

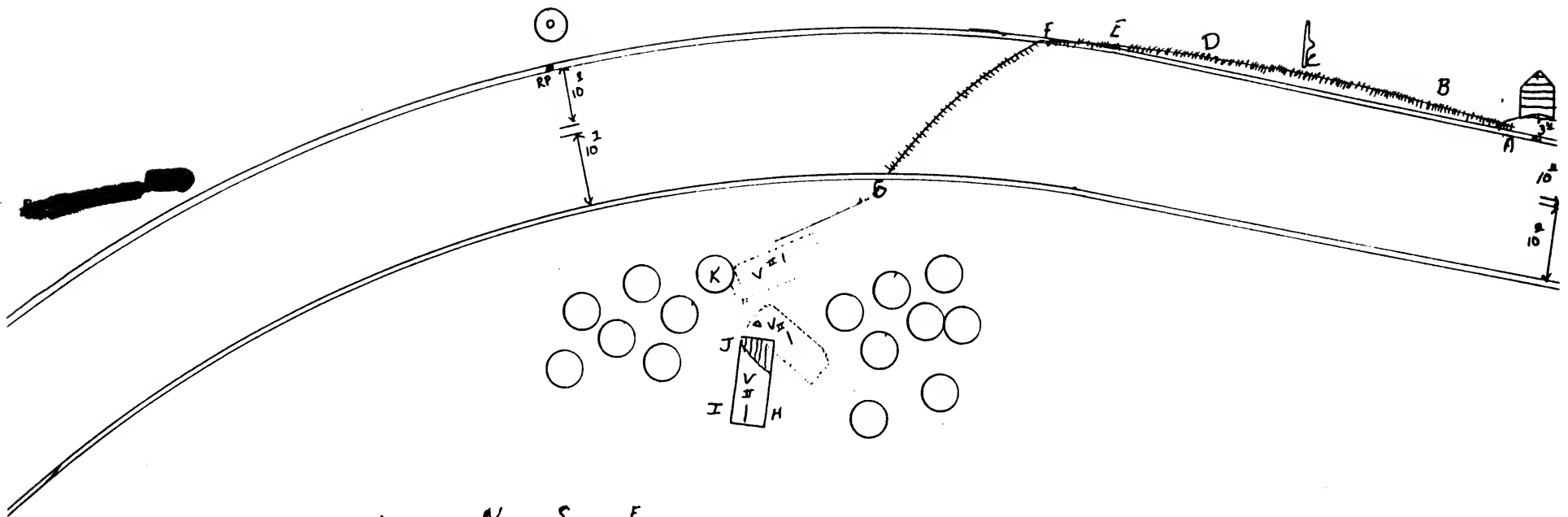
[REDACTED]


I.D. No.


[REDACTED]

Agency


[REDACTED] Co. Sheriff's Dept.




 = MAIL BOX

 = TIRE MARK

• = REF POINT

⊙ = POLE # 

 = SIGN


○ = TREE

	N	S	E
A			481 <sup>2</sup>
B	2 <sup>2</sup>		436 <sup>2</sup>
C	4 <sup>2</sup>		280 <sup>2</sup>
D	2 <sup>2</sup>		203 <sup>2</sup>
E	0 <sup>2</sup>		183 <sup>2</sup>
F			165 <sup>2</sup>
G		20 <sup>2</sup>	66 <sup>2</sup>
H		60 <sup>2</sup>	29 <sup>2</sup>
I		59 <sup>2</sup>	22 <sup>2</sup>
J		50 <sup>2</sup>	26 <sup>2</sup>
K		45 <sup>2</sup>	26 <sup>2</sup>

\* NOT TO SCALE

DRAWING BY

 SHERIFF DEPT

CASE # 



↑  
N  
↓

**Appendix B:**

**CRASHPC PROGRAM RESULTS**

**SMASH PROGRAM RESULTS**

**EDCRASH PROGRAM RESULTS**





U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

# CRASHPC PROGRAM SUMMARY

(All Measurements in Metric)

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

## Identifying Title

10  
Primary  
Sampling Unit

9411  
Case No.-Stratum

03  
Accident Event  
Sequence No.

\_\_\_\_\_  
Date (Month, day, year) of Run

## CRASHPC Vehicle Identification

Vehicle 1 93 Oldsmobile Cutlass Ciera S 1  
Vehicle 2 \_\_\_\_\_  
Year Make Model NASS  
Veh. No.

## GENERAL INFORMATION

VEHICLE 1		VEHICLE 2	
Size	<u>3</u>	Size	<u>11</u>
Weight		Weight	
<u>1290</u> + <u>161</u> + <u>11</u> = <u>1362</u> kg		_____ + _____ + _____ = _____ kg	
Curb Occupant(s) Cargo		Curb Occupant(s) Cargo	
CDC	<u>12 F R E W 5</u>	CDC	_____
PDOF (-180 to +180)	<u>+ 000</u> °	PDOF (-180 to +180)	<u>+</u> _____°
Stiffness	<u>9</u>	Stiffness	_____

## SCENE INFORMATION

Rest and Impact Positions ☒ No, Go To Damage Information ☐ Yes

VEHICLE 1		VEHICLE 2	
Rest Position	X _____ m Y _____ m PSI _____°	Rest Position	X _____ m Y _____ m PSI _____°
Impact Position	X _____ m Y _____ m PSI _____°	Impact Position	X _____ m Y _____ m PSI _____°
Slip Angle(-180 to +180)	_____°	Slip Angle (-180 to +180)	_____°

## VEHICLE MOTION

Sustained Contact ☐ No ☐ Yes

VEHICLE 1		VEHICLE 2	
Vehicle Rotation	<input type="checkbox"/> No <input type="checkbox"/> Yes	Vehicle Rotation	<input type="checkbox"/> No <input type="checkbox"/> Yes
Rotation Stop Before Rest	<input type="checkbox"/> No <input type="checkbox"/> Yes	Rotation Stop Before Rest	<input type="checkbox"/> No <input type="checkbox"/> Yes
End of Rotation Position	X _____ m Y _____ m PSI _____°	End of Rotation Position	X _____ m Y _____ m PSI _____°
Curved Path	<input type="checkbox"/> No <input type="checkbox"/> Yes	Curved Path	<input type="checkbox"/> No <input type="checkbox"/> Yes
Point on Path	X _____ m Y _____ m	Point on Path	X _____ m Y _____ m
Rotation Direction	<input type="checkbox"/> None <input type="checkbox"/> CW <input type="checkbox"/> CCW	Rotation Direction	<input type="checkbox"/> None <input type="checkbox"/> CW <input type="checkbox"/> CCW
Rotation >360°	<input type="checkbox"/> No <input type="checkbox"/> Yes	Rotation >360°	<input type="checkbox"/> No <input type="checkbox"/> Yes

## FRICTION INFORMATION

Coefficient of Friction \_\_\_\_\_

Rolling Resistance Option \_\_\_\_\_

## Vehicle 1 Rolling Resistance

LF \_\_\_\_\_ RF \_\_\_\_\_

LR \_\_\_\_\_ RR \_\_\_\_\_

## Vehicle 2 Rolling Resistance

LF \_\_\_\_\_ RF \_\_\_\_\_

LR \_\_\_\_\_ RR \_\_\_\_\_

## TRAJECTORY INFORMATION

Trajectory Data ☐ No ☐ Yes*If No, Go To Damage Information*

## Vehicle 1 Steer Angles

LF \_\_\_\_\_ ° RF \_\_\_\_\_ °

LR \_\_\_\_\_ ° RR \_\_\_\_\_ °

## Vehicle 2 Steer Angles

LF \_\_\_\_\_ ° RF \_\_\_\_\_ °

LR \_\_\_\_\_ ° RR \_\_\_\_\_ °

Terrain Boundary ☐ No ☐ Yes

## First Point

X \_\_\_\_\_ m Y \_\_\_\_\_ m

## Second Point

X \_\_\_\_\_ m Y \_\_\_\_\_ m

Secondary Coefficient of Friction \_\_\_\_\_

## DAMAGE INFORMATION

## VEHICLE 1

Damage Length L 156 cm

## Crush Depths

C<sub>1</sub> 18 cmC<sub>2</sub> 45 cmC<sub>3</sub> 64 cmC<sub>4</sub> 141 cmC<sub>5</sub> 139 cmC<sub>6</sub> 137 cm

## Damage Offset

D  $\oplus$  47 cm

## VEHICLE 2

Damage Length L \_\_\_\_\_ cm

## Crush Depths

C<sub>1</sub> \_\_\_\_\_ cmC<sub>2</sub> \_\_\_\_\_ cmC<sub>3</sub> \_\_\_\_\_ cmC<sub>4</sub> \_\_\_\_\_ cmC<sub>5</sub> \_\_\_\_\_ cmC<sub>6</sub> \_\_\_\_\_ cm

## Damage Offset

D  $\pm$  \_\_\_\_\_ cmIF THIS COMMON IMPACT WAS WITH A MOTOR VEHICLE *NOT IN TRANSPORT*, FILL IN THE INFORMATION BELOW.

Model Year: \_\_\_\_\_

Make: \_\_\_\_\_

Model: \_\_\_\_\_

VIN: \_\_\_\_\_

The Weight, CDC, Scene Data and Damage Information for this vehicle should be recorded above.

Complete and ATTACH the appropriate vehicle damage sketch and dimensions to the Form.

# SUMMARY OF CRASHPC RESULTS USING DAMAGE

IU-94

## SPEED CHANGE (DAMAGE)

### VEHICLE #1

TOTAL 71 KPH ( 44 MPH)  
 LONGITUDINAL -71 KPH ( -44 MPH)  
 LATITUDINAL 0 KPH ( 0 MPH)  
 PDOF ANGLE 0 DEGREES  
 ENERGY DISSIPATED = 325793 JOULES ( 240260 FT-LB)

### VEHICLE #2

TOTAL 0 KPH ( 0 MPH)  
 LONGITUDINAL 0 KPH ( 0 MPH)  
 LATITUDINAL 0 KPH ( 0 MPH)  
 PDOF ANGLE 0 DEGREES  
 ENERGY DISSIPATED = 0 JOULES ( 0 FT-LB)

## DAMAGE DATA

	VEHICLE #1	VEHICLE #2
SIZE CATEGORY	3	11
STIFFNESS CATEGORY	9	0
VEHICLE WEIGHT	1362 KGS ( 3003 LBS)	***** KGS (2204586 LBS) *
CDC	12FREW5	BARRIER
PDOF ANGLE	0 DEGREES *	0 DEGREES *
CRUSH LENGTH	156 CM. ( 61 IN.)	0 CM. ( 0 IN.) *
C1	18 CM. ( 7 IN.)	0 CM. ( 0 IN.) *
C2	45 CM. ( 18 IN.)	0 CM. ( 0 IN.) *
C3	64 CM. ( 25 IN.)	0 CM. ( 0 IN.) *
C4	141 CM. ( 56 IN.)	0 CM. ( 0 IN.) *
C5	139 CM. ( 55 IN.)	0 CM. ( 0 IN.) *
C6	137 CM. ( 54 IN.)	0 CM. ( 0 IN.) *
D	47 CM. ( 19 IN.)	0 CM. ( 0 IN.) *
D'	68 CM. ( 27 IN.)	0 CM. ( 0 IN.) *

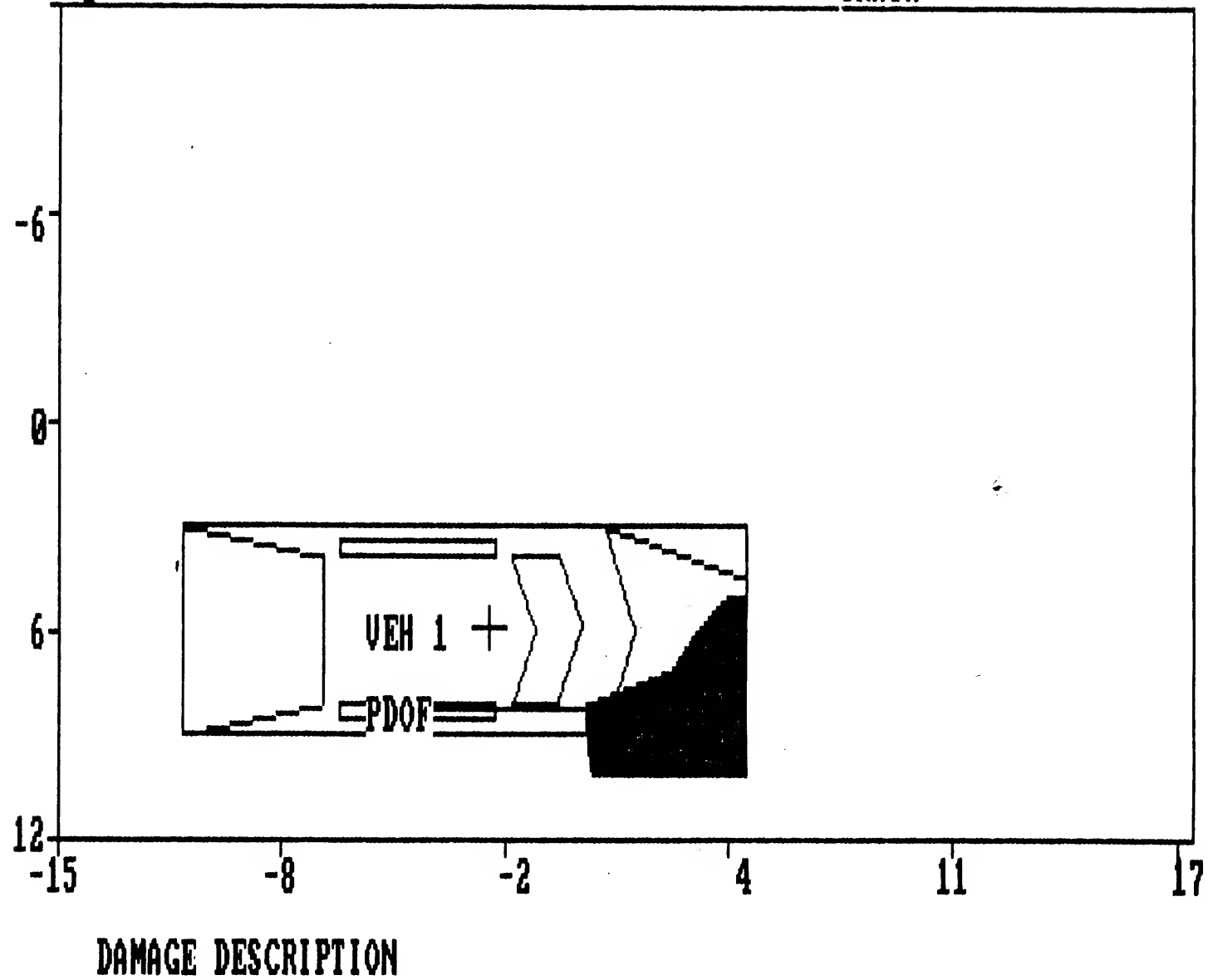
(\* INDICATES DEFAULT VALUE)

## DIMENSIONS AND INERTIAL PROPERTIES

	VEHICLE #1	VEHICLE #2
CG TO FRONT AXLE	130 CM. ( 51 IN.)	127 CM. ( 50 IN.)
CG TO REAR AXLE	141 CM. ( 56 IN.)	127 CM. ( 50 IN.)
TRACK	150 CM. ( 59 IN.)	127 CM. ( 50 IN.)
CG TO FRONT OF VEH	228 CM. ( 90 IN.)	127 CM. ( 50 IN.)
CG TO REAR OF VEH	-270 CM. (-106 IN.)	-127 CM. ( -50 IN.)
CG TO SIDE OF VEH	92 CM. ( 36 IN.)	127 CM. ( 50 IN.)
MOMENT OF INERTIA	11771 KGS ( 25951 LBS)	***** KGS (***** LBS)
VEHICLE MASS	4 KGS ( 8 LBS)	2600 KGS ( 5732 LBS)

Printing Picture:

CRASH



**This page reserved for SMASH Program Results!**

**We were not able to get this reconstruction program to execute a crash involving a single vehicle versus a barrier.**

# SUMMARY OF EDCRASH RESULTS

Lic. User: NHTSA #8

S/N: 0266-8

Version: 4.61

Date: [REDACTED] 1994

IU/SCI94-11

## MESSAGES:

NO MESSAGES

## VEHICLE # 1

IMPACT SPEED mph		SPEED CHANGE mph			BASIS FOR RESULTS
FWD	LAT	TOTAL	LONG.	LATERAL	
N/A	N/A	N/A	N/A	N/A	SPINOUT TRAJECTORIES AND CONSERVATION OF LINEAR MOMENTUM
N/A	N/A	N/A	N/A	N/A	SPINOUT TRAJECTORIES AND DAMAGE
		45.5	-45.5	0.0	DAMAGE DATA ONLY

**SUMMARY OF DAMAGE DATA**  
(NOTE: '\*\*' indicates default value)

	Vehicle #1	Vehicle #2	
CLASS / STIFFNESS CATEGORIES	3 / 9	11 / 11	
WEIGHT	2843.0 lb	1000000.0 lb	**
CDC	12FREW5	BARRIER	
DAMAGE WIDTH	61.0 in	0.0 in	**
CRUSH DEPTH 1	7.8 in	0.0 in	**
CRUSH DEPTH 2	17.7 in	0.0 in	**
CRUSH DEPTH 3	25.0 in	0.0 in	**
CRUSH DEPTH 4	55.5 in	0.0 in	**
CRUSH DEPTH 5	54.8 in		
CRUSH DEPTH 6	54.0 in		
DAMAGE MIDPOINT OFFSET	18.5 in	0.0 in	**
DAMAGE ENERGY	238717.8 ft-lb	0.0 ft-lb	
MAGNITUDE OF PRINCIPAL FORCE	107337.4 lb	107337.4 lb	
DIRECTION OF PRINCIPAL FORCE	-0.0 deg	180.0 deg	**
MOMENT ARM OF PRINCIPAL FORCE	26.5 in	0.0 in	
DAMAGE CENTROID	26.5 in	0.0 in	

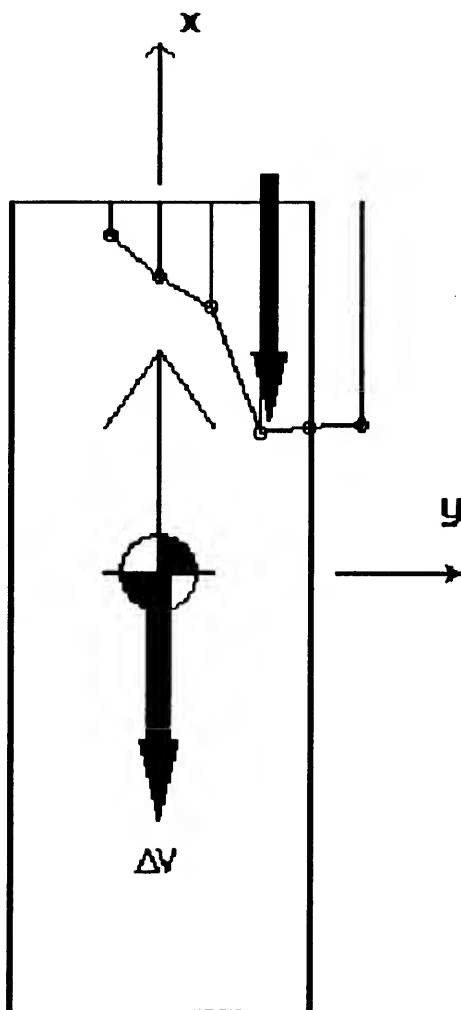
**DIMENSIONAL, INERTIAL AND CRUSH STIFFNESS PROPERTIES**  
(NOTE: '\*\*' indicates default value)

	Vehicle #1	Vehicle #2	
CG TO FRONT AXLE	51.3 in	50.0 in	**
CG TO REAR AXLE	55.5 in	50.0 in	**
TRACKWIDTH	58.9 in	50.0 in	**
YAW MOMENT OF INERTIA	24456.9 lb-sec <sup>2</sup> -in	1000000.0 lb-sec <sup>2</sup> -in	**
MASS	7.4 lb-sec <sup>2</sup> /in	24456.9 lb-sec <sup>2</sup> /in	**
BODY LENGTH FROM CG TO FRONT	89.8 in	50.0 in	**
BODY LENGTH FROM CG TO REAR	-106.4 in	-50.0 in	**
BODY OVERALL WIDTH	72.6 in	100.0 in	**

**CRUSH STIFFNESSES:**

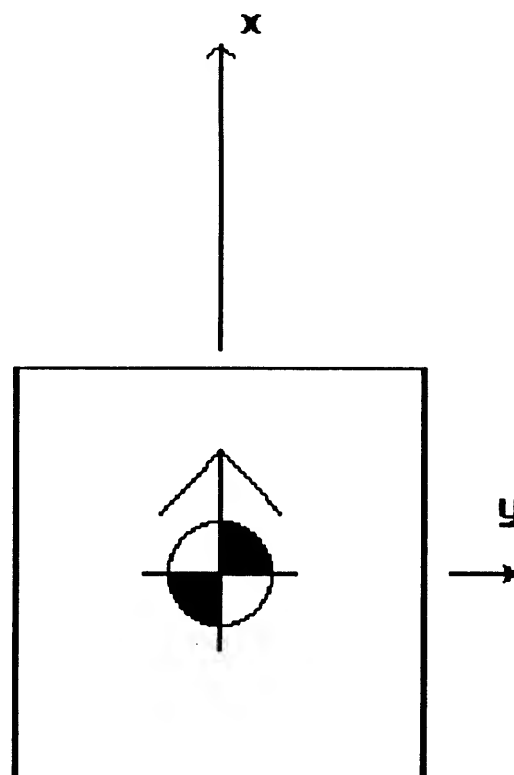
A	B	A	B
lb/in	lb/in <sup>2</sup>	lb/in	lb/in <sup>2</sup>
373.4 **	37.7 **	1000000.0 **	1000000.0 **

Vehicle No. 1



CDC/PDOF: 12FLEW5 -0.0 deg  
Max Impact Force: 107337 lb

Vehicle No. 2



CDC/PDOF: BARRIER 180.0 deg  
Max Impact Force: 107337 lb

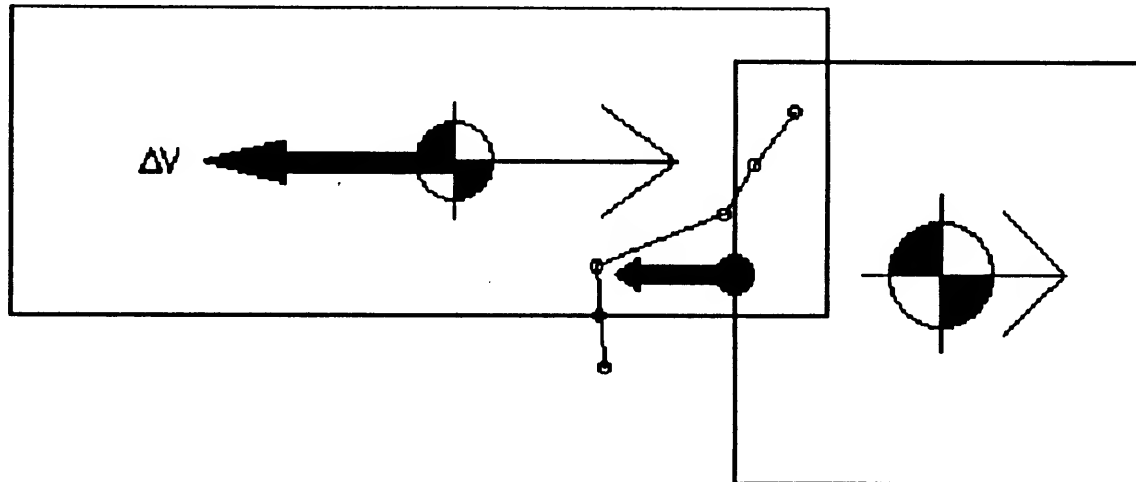


EDCRASH  
Damage Profiles

	Ueh #1	Ueh #2
Delta-U (mph):		
X	-45.5	0.0
Y	0.0	-0.0
Tot	45.5	0.0

	Crush Data (in):	
W	61.0	0.0
D	18.5	0.0
C1	7.8	0.0
C2	17.7	0.0
C3	25.0	0.0
C4	55.5	0.0
C5	54.8	
C6	54.0	





**EDCRASH  
At Impact**

	Veh #1	Veh #2
Delta-V (mph)		
(BASIS: Damage)		
X	-45.5	0.0
Y	0.0	-0.0
Tot	45.5	0.0
PDOF	-0.0	180.0

**UNITS: mph,ft,deg**

**(NO SCENE DATA)**

**Appendix C:**

**NASS CDS ACCIDENT FORM**



## ACCIDENT FORM

1. Primary Sampling Unit Number

2. Case Number - Stratum

### IDENTIFICATION

3. Number of General Vehicle  
Forms Submitted

4. Date of Accident  
(Month, Day, Year)

5. Time of Accident

Code reported military time of accident.

NOTE: Midnight = 2400  
Unknown = 9999

### SPECIAL STUDIES - INDICATORS

Check (✓) each special study (SS14-SS18 below) that has been completed; code 1 for the checked special studies and 0 for the special studies not checked.

6. SS15 Administrative Use

7. SS16 Pedestrian Crash Data Study

8. SS17 Impact Fires

9. SS18

10. SS19

### NUMBER OF EVENTS

11. Number of Recorded Events  
in This Accident

Code the number of events which occurred  
in this accident.

### ACCIDENT EVENTS

For each event that occurred in the accident, code the lowest numbered vehicle in the left columns and the other involved vehicle or object on the right.

Accident Event Sequence Number	Vehicle Number	Class Of Vehicle	General Area of Damage	Vehicle Number or Object Contacted	Class Of Vehicle	General Area of Damage
12. 0 1	13. 0 1	14. 0 3	15. R	16. 6 8	17. 0 0	18. 0
19. 0 2	20. 0 1	21. 0 3	22. R	23. 6 8	24. 0 0	25. 0
26. 0 3	27. 0 1	28. 0 3	29. R	30. 5 0	31. 0 0	32. 0
33. 0 4	34. 0 1	35. 0 3	36. F	37. 4 2	38. 0 0	39. 0
40. 0 5	41. _____	42. _____	43. _____	44. _____	45. _____	46. _____

IF GREATER THAN FIVE EVENTS, CONTINUE CODING ON THE ACCIDENT EVENT SUPPLEMENT

## CODES FOR CLASS OF VEHICLE

- (00) Not a motor vehicle
- (01) Subcompact/mini (wheelbase < 254 cm)
- (02) Compact (wheelbase ≥ 254 but < 265 cm)
- (03) Intermediate (wheelbase ≥ 265 but < 278 cm)
- (04) Full size (wheelbase ≥ 278 but < 291 cm)
- (05) Largest (wheelbase ≥ 291 cm)
- (09) Unknown passenger car size
- (11) Compact utility vehicle
- (12) Large utility vehicle (≤ 4,500 kgs GVWR)
- (13) Passenger van (≤ 4,500 kgs GVWR)
- (14) Other van (≤ 4,500 kgs GVWR)
- (15) Pickup truck (≤ 4,500 kgs GVWR)
- (18) Other truck (≤ 4,500 kgs GVWR)
- (19) Unknown light truck type
- (20) School bus
- (21) Other bus
- (22) Truck (> 4,500 kgs GVWR)
- (23) Tractor without trailer
- (24) Tractor-trailer(s)
- (25) Motored cycle
- (28) Other vehicle
- (99) Unknown

## CODES FOR GENERAL AREA OF DAMAGE (GAD)

### CDS APPLICABLE AND OTHER VEHICLES

- (O) Not a motor vehicle
- (N) Noncollision
- (F) Front
- (R) Right side
- (L) Left side
- (B) Back
- (T) Top
- (U) Undercarriage
- (9) Unknown

### TDC APPLICABLE VEHICLES

- (O) Not a motor vehicle
- (N) Noncollision
- (F) Front
- (R) Right side
- (L) Left side
- (B) Back of unit with cargo area (rear of trailer or straight truck)
- (D) Back (rear of tractor)
- (C) Rear of cab
- (V) Front of cargo area
- (T) Top
- (U) Undercarriage
- (9) Unknown

## CODES FOR VEHICLE NUMBER OR OBJECT CONTACTED

### (01-30) — Vehicle Number

#### Noncollision

- (31) Overturn — rollover
- (32) Fire or explosion
- (33) Jackknife
- (34) Other intraunit damage (specify): \_\_\_\_\_

(35) Noncollision injury

(38) Other noncollision (specify): \_\_\_\_\_

(39) Noncollision — details unknown

#### Collision With Fixed Object

- (41) Tree (≤ 10 cm in diameter)
- (42) Tree (> 10 cm in diameter)
- (43) Shrubbery or bush
- (44) Embankment

(45) Breakaway pole or post (any diameter)

#### Nonbreakaway Pole or Post

- (50) Pole or post (≤ 10 cm in diameter)
- (51) Pole or post (> 10 cm but ≤ 30 cm in diameter)
- (52) Pole or post (> 30 cm in diameter)
- (53) Pole or post (diameter unknown)

(54) Concrete traffic barrier

(55) Impact attenuator

(56) Other traffic barrier (includes guardrail)  
(specify): \_\_\_\_\_

(57) Fence

(58) Wall

(59) Building

(60) Ditch or culvert

(61) Ground

(62) Fire hydrant

(63) Curb

(64) Bridge

(68) Other fixed object (specify): \_\_\_\_\_

(69) Unknown fixed object

#### Collision with Nonfixed Object

(71) Motor vehicle not in-transport

(72) Pedestrian

(73) Cyclist or cycle

(74) Other nonmotorist or conveyance

(75) Vehicle occupant

(76) Animal

(77) Train

(78) Trailer, disconnected in transport

(79) Object fell from vehicle in-transport

(88) Other nonfixed object (specify): \_\_\_\_\_

(89) Unknown nonfixed object

(98) Other event (specify): \_\_\_\_\_

(99) Unknown event or object

**Appendix D:**

**NASS CDS VEHICLE FORMS: CASE VEHICLE**



## GENERAL VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number 10  
2. Case Number - Stratum 9411  
3. Vehicle Number 01

### VEHICLE IDENTIFICATION

4. Vehicle Model Year 94  
Code the last two digits of the model year  
(99) Unknown
5. Vehicle Make (specify): OLDSMOBILE 21  
Applicable codes are found in your  
NASS Data Collection, Coding and  
Editing Manual.  
(99) Unknown
6. Vehicle Model (specify): CUTLASS Ciera S 017  
Applicable codes are found in your  
NASS Data Collection, Coding and  
Editing Manual.  
(999) Unknown
7. Body Type 04  
Note: Applicable codes may be found on  
the back of this page.
8. Vehicle Identification Number  
1G3AG55M0R6  
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17  
Left justify; Slash zeros and letter Z (0 and Z)  
No VIN—Code all zeros  
Unknown—Code all nines

### OFFICIAL RECORDS

9. Police Reported Vehicle Disposition 1  
(0) Not towed due to vehicle damage  
(1) Towed due to vehicle damage  
(9) Unknown
10. Police Reported Travel Speed 999  
Code to the nearest kph (NOTE: 000 means  
less than 0.5 kph)  
(160) 159.5 kph and above  
(999) Unknown  
\_\_\_\_ mph X 1.6093 = \_\_\_\_ kph

11. Police Reported Alcohol Presence 1  
(0) No alcohol present  
(1) Yes (alcohol present)  
(7) Not reported  
(8) No driver present  
(9) Unknown

Note: See variables 37 through 55  
(Page 4) for information on Other Drugs

12. Alcohol Test Result For Driver 14  
Code actual value (decimal implied  
before first digit—0.xx)  
(95) Test refused  
(96) None given  
(97) AC test performed, results unknown  
(98) No driver present  
(99) Unknown

Source: PAR

### ACCIDENT RELATED

13. Speed Limit 072  
(000) No statutory limit  
Code posted or statutory speed limit  
in kph  
(999) Unknown  
45 mph X 1.6093 = 56 kph
14. Attempted Avoidance Maneuver 01  
(01) No avoidance actions  
(02) Braking (no lockup)  
(03) Braking (lockup)  
(04) Braking (lockup unknown)  
(05) Releasing brakes  
(06) Steering left  
(07) Steering right  
(08) Braking and steering left  
(09) Braking and steering right  
(10) Accelerating  
(11) Accelerating and steering left  
(12) Accelerating and steering right  
(97) No driver present  
(98) Other action (specify):  
(99) Unknown
15. Accident Type 01  
Applicable codes may be found on the  
back of page two of this field form  
(C0) No impact  
Code the number of the diagram that  
best describes the accident circumstance  
(98) Other accident type (specify):  
(99) Unknown

\*\*\*\* SKIP TO VARIABLE GV37 IF GV07 DOES NOT EQUAL 01-49 \*\*\*\*

## OCCUPANT RELATED

## 16. Driver Presence in Vehicle

- (0) Driver not present  
(1) Driver present  
(9) Unknown

## 17. Number of Occupants This Vehicle

- (00-96) Code actual number of occupants for this vehicle  
(97) 97 or more  
(99) Unknown

## 18. Number of Occupant Forms Submitted

## 24. Rollover

- (0) No rollover (no overturning)

*Rollover (primarily about the longitudinal axis)*

- (1) Rollover, 1 quarter turn only  
(2) Rollover, 2 quarter turns  
(3) Rollover, 3 quarter turns  
(4) Rollover, 4 or more quarter turns (specify):

- (5) Rollover--end-over-end (i.e., primarily about the lateral axis)  
(9) Rollover (overturn), details unknown

## VEHICLE WEIGHT ITEMS

## 19. Vehicle Curb Weight

Code weight to nearest  
10 kilograms.

- (045) Less than 450 kilograms  
(610) 6,100 kilograms or more  
(999) Unknown

2843 lbs X .4536 = 1290 kgs

Source: [REDACTED]

## 20. Vehicle Cargo Weight

Code weight to nearest  
10 kilograms.

- (000) Less than 5 kilograms  
(450) 4,500 kilograms or more  
(999) Unknown

25 lbs X .4536 = 11 kgs

*Golf clubs*

## OVERRIDE/UNDERRIDE (THIS VEHICLE)

## 25. Front Override/Underride (this Vehicle)

## 26. Rear Override/Underride (this Vehicle)

- (0) No override/underride, or  
not an end-to-end impact

*Override (see specific CDC)*

- (1) 1st CDC  
(2) 2nd CDC  
(3) Other not automated CDC (specify):

*Underride (see specific CDC)*

- (4) 1st CDC  
(5) 2nd CDC  
(6) Other not automated CDC (specify):

- (7) Medium/heavy truck or bus override  
(9) Unknown

## RECONSTRUCTION DATA

## 21. Towed Trailing Unit

- (0) No towed unit  
(1) Yes--towed trailing unit  
(9) Unknown

## 22. Documentation of Trajectory Data for This Vehicle

- (0) No  
(1) Yes

## 23. Post Collision Condition of Tree or Pole (For Highest Delta V)

- (0) Not collision (for highest delta V) with tree or pole  
(1) Not damaged  
(2) Cracked/sheared  
(3) Tilted <45 degrees  
(4) Tilted ≥45 degrees  
(5) Uprooted tree  
(6) Separated pole from base  
(7) Pole replaced  
(8) Other (specify):

(9) Unknown

## HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V

Values: (000)-(359) Code actual value  
(997) Noncollision  
(998) Impact with object  
(999) Unknown

## 27. Heading Angle For This Vehicle

## 28. Heading Angle For Other Vehicle

29. Basis for Total Delta V (highest) 1*Delta V Calculated*

- (1) CRASH program—damage only routine
- (2) CRASH program—damage and trajectory routine
- (3) Missing vehicle algorithm

*Delta V Not Calculated*

- (4) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.
- (5) All vehicles within scope (CDC applicable) of CRASH program but one of the collision conditions is beyond the scope of the CRASH program or other acceptable reconstruction technique, regardless of adequacy of damage data.
- (6) All vehicle and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available.

**COMPUTER GENERATED DELTA V**30. Total Delta V Highest71 Nearest kph (highest)

\_\_\_\_\_ Nearest kph (secondary)

(NOTE: 000 means less than  
0.5 kph)  
(160) 159.5 kph and above  
(999) Unknown

31. Longitudinal Component of Delta V Highest-71 Nearest kph (highest)

\_\_\_\_\_ Nearest kph (secondary)

(NOTE: \_000 means greater than  
-0.5 kph and less than +0.5 kph)  
(±160) ±159.5 kph and above  
(\_999) Unknown

32. Lateral Component of Delta V Highest

\_\_\_\_\_ Nearest kph (highest)

\_\_\_\_\_ Nearest kph (secondary)

(NOTE: \_000 means greater than  
-0.5 kph and less than +0.5 kph)  
(±160) ±159.5 kph and above  
(\_999) Unknown

33. Energy Absorption 325800325793 Nearest 100 joules (highest)

\_\_\_\_\_ Nearest 100 joules (secondary)

(NOTE: 0000 means less than 50 joules)  
(9997) 999,650 joules or more  
(9999) Unknown

34. Confidence In Reconstruction Program Results (For Highest Delta V) 1

- (0) No reconstruction
- (1) Collision fits model — results appear reasonable
- (2) Collision fits model — results appear high
- (3) Collision fits model — results appear low
- (4) Borderline reconstruction — results appear reasonable

35. Type of Vehicle Inspection 1

- (0) No inspection
- (1) Complete inspection
- (2) Partial inspection (specify): \_\_\_\_\_

36. Is this an AOPS Vehicle? 1

- (0) No
- (1) Yes - researcher determined
- (2) VIN determined air bag system
- (3) VIN determined automatic (passive) belts
- (4) VIN determined air bag and automatic (passive) belts

IS OLDMISS APPLICABLE FOR THIS VEHICLE? [ ] YES [✓] NO

IF YES: IS A COMPLETED OLDMISS PROGRAM SUMMARY INCLUDED? [ ] YES [ ] NO



37. Police Reported Other Drug Presence 7

- (0) No other drug(s) present
- (1) Yes [other drug(s) present]
- (7) Not reported
- (8) No driver present
- (9) Unknown

38. Police Reported Drug Evaluation Classification 0

## (DEC) Test For Driver

- (0) No DEC process available or given
- (1) DEC process given, results known
- (2) DEC process given, results unknown
- (3) DEC process available, unknown if given
- (8) No driver present

39. Other Drug Specimen Test Type For Driver 9

- (0) No specimen test given
- (1) Blood test
- (2) Urine test
- (3) Other specimen tests (specify):

- 
- (7) Unspecified specimen test
  - (8) No driver present
  - (9) Unknown if specimen test given

### DRUG EVALUATION CLASSIFICATION

#### OTHER DRUGS TEST RESULTS FOR DRIVER

	DEC Test Results	Specimen Test Results
Narcotic Drug	40. <u>0</u>	41. <u>9</u>
Depressant Drug	42. <u>0</u>	43. <u>9</u>
Stimulant Drug	44. <u>0</u>	45. <u>9</u>
Hallucinogen Drug	46. <u>0</u>	47. <u>9</u>
Cannabinoid Drug	48. <u>0</u>	49. <u>9</u>
Phencyclidine (PCP)	50. <u>0</u>	51. <u>9</u>
Inhalant Drug	52. <u>0</u>	53. <u>9</u>
Other Drug (Excluding Nicotine, Aspirin, Alcohol, Drugs Administered Post-Crash)	54. <u>0</u>	55. <u>9</u>

## Codes For DEC Test Results

- (0) No DEC test given
- (1) Passed DEC test
- (2) Failed DEC test
- (3) DEC test given—results unknown
- (8) No driver present
- (9) Unknown if DEC test given

## Codes for Specimen Test Results

- (0) No specimen test given
- (1) Drug not found in specimen
- (2) Drug found in specimen
- (7) Specimen test given, results unknown or not obtained
- (8) No driver present
- (9) Unknown if specimen test given

## OTHER DATA

## 56. Driver's Zip Code

- (00000) Driver not present  
 (00001) Driver not a resident of U.S. or territories  
 Code actual 5-digit zip code  
 (99999) Unknown

## 57. Driver's Race/Ethnic Origin

- (0) Driver not present  
 (1) White (non-Hispanic)  
 (2) Black (non-Hispanic)  
 (3) White (Hispanic)  
 (4) Black (Hispanic)  
 (5) American Indian, Eskimo or Aleut  
 (6) Asian or Pacific Islander  
 (8) Other (specify):  
 (9) Unknown

## 58. Vehicle Special Use (This Trip)

- (0) No special use  
 (1) Taxi  
 (2) Vehicle used as school bus  
 (3) Vehicle used as other bus  
 (4) Military  
 (5) Police  
 (6) Ambulance  
 (7) Fire truck or car  
 (8) Other (specify):  
 (9) Unknown

## ROLLOVER DATA

If GV07 (Body Type)  $\neq$  1-49, leave GV59-GV63 blank.  
 If GV24 (Rollover) = 0, then GV59-GV63 must equal 0.  
 If GV24 = 9, then GV59-GV63 must equal 9.

## 59. Rollover Initiation Type

- (0) No rollover  
 (1) Trip-over  
 (2) Flip-over  
 (3) Turn-over  
 (4) Climb-over  
 (5) Fall-over  
 (6) Bounce-over  
 (7) Collision with another vehicle  
 (8) Other rollover initiation type specify:  
 (9) Unknown rollover initiation type

## 60. Location of Rollover Initiation

- (0) No rollover  
 (1) On roadway  
 (2) On shoulder—paved  
 (3) On shoulder—unpaved  
 (4) On roadside or divided trafficway median  
 (9) Unknown

## 61. Rollover Initiation Object Contacted

## 62. Location on Vehicle Where Initial Principal Tripping Force Is Applied

- (0) No rollover  
 (1) Wheels/tires  
 (2) Side plane  
 (3) End plane  
 (4) Undercarriage  
 (5) Other location on vehicle (specify):  
 (8) Non-contact rollover forces (specify):  
 (9) Unknown

## 63. Direction of Initial Roll

- (0) No rollover  
 (1) Roll right - primarily about the longitudinal axis  
 (2) Roll left - primarily about the longitudinal axis  
 (5) End-over-end (i.e., primarily about the lateral axis)  
 (9) Unknown roll direction

## PRECRASH DATA

## 64. Pre-Event Movement (Prior to Recognition of Critical Event)

- (01) Going straight  
 (02) Slowing or stopping in traffic lane  
 (03) Starting in traffic lane  
 (04) Stopped in traffic lane  
 (05) Passing or overtaking another vehicle  
 (06) Disabled or parked in travel lane  
 (07) Leaving a parking position  
 (08) Entering a parking position  
 (09) Turning right  
 (10) Turning left  
 (11) Making a U-turn  
 (12) Backing up (other than for parking position)  
 (13) Negotiating a curve  
 (14) Changing lanes  
 (15) Merging  
 (16) Successful avoidance maneuver to a previous critical event  
 (97) Other (specify):  
 (98) No driver present  
 (99) Unknown

## PRECRASH DATA (Continued)

65. Critical Precrash Event 11*This Vehicle Loss of Control Due To:*

- (01) Blow out or flat tire
- (02) Stalled engine
- (03) Disabling vehicle failure (e.g., wheel fell off) (specify): \_\_\_\_\_
- (04) Non-disabling vehicle problem (e.g., hood flew up) (specify): \_\_\_\_\_
- (05) Poor road conditions (puddle, pot hole, ice, etc.) (specify): \_\_\_\_\_
- (06) Traveling too fast for conditions
- (08) Other cause of control loss (specify): \_\_\_\_\_
- (09) Unknown cause of control loss

*This Vehicle Traveling*

- (10) Over the lane line on left side of travel lane
- (11) Over the lane line on right side of travel lane
- (12) Off the edge of the road on the left side
- (13) Off the edge of the road on the right side
- (14) End departure
- (15) Turning left at intersection
- (16) Turning right at intersection
- (17) Crossing over (passing through) intersection
- (19) Unknown travel direction

*Other Motor Vehicle In Lane*

- (50) Stopped
- (51) Traveling in same direction with lower speed (i.e., lower steady speed or decelerating)
- (52) Traveling in same direction with higher speed
- (53) Traveling in opposite direction
- (54) In crossover
- (55) Backing
- (59) Unknown travel direction of other motor vehicle in lane

*Other Motor Vehicle Encroaching Into Lane*

- (60) From adjacent lane (same direction)—over left lane line
- (61) From adjacent lane (same direction)—over right lane line
- (62) From opposite direction—over left lane line
- (63) From opposite direction—over right lane line
- (64) From parking lane
- (65) From crossing street, turning into same direction
- (66) From crossing street, across path
- (67) From crossing street, turning into opposite direction
- (68) From crossing street, intended path not known
- (70) From driveway, turning into same direction
- (71) From driveway, across path
- (72) From driveway, turning into opposite direction
- (73) From driveway, intended path not known
- (74) From entrance to limited access highway
- (78) Encroachment by other vehicle—details unknown

*Pedestrian or Pedalcyclist, or Other Nonmotorist*

- (80) Pedestrian in roadway
- (81) Pedestrian approaching roadway
- (82) Pedestrian—unknown location
- (83) Pedalcyclist or other nonmotorist in roadway (specify): \_\_\_\_\_
- (84) Pedalcyclist or other nonmotorist approaching roadway (specify): \_\_\_\_\_
- (85) Pedalcyclist or other nonmotorist—unknown location (specify): \_\_\_\_\_

*Object or Animal*

- (87) Animal in roadway
- (88) Animal approaching roadway
- (89) Animal—unknown location
- (90) Object in roadway
- (91) Object approaching roadway
- (92) Object—unknown location

(98) Other critical precrash event (specify): \_\_\_\_\_

(99) Unknown \_\_\_\_\_

For Corrective Actions Attempted see variable GV14 (Attempted Avoidance Maneuver)

66. Precrash Stability After Avoidance Maneuver 0

- (0) No avoidance maneuver
- (1) Tracking
- (2) Skidding longitudinally—rotation less than 30 degrees
- (3) Skidding laterally—clockwise rotation
- (4) Skidding laterally—counterclockwise rotation
- (7) Other vehicle loss-of-control (specify): \_\_\_\_\_
- (8) No driver present
- (9) Precrash stability unknown

67. Precrash Directional Consequences of Avoidance Maneuver (Corrective Action) 0

- (0) No avoidance maneuver
- (1) Vehicle stayed in travel lane where avoidance maneuver was initiated
- (2) Vehicle stayed on roadway but left travel lane where avoidance maneuver was initiated
- (3) Vehicle stayed on roadway, not known if left travel lane where avoidance maneuver was initiated
- (4) Vehicle departed roadway
- (5) Avoidance maneuver initiated off roadway
- (8) No driver present
- (9) Directional consequences unknown

\*\*\* IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV35 = 0), \*\*\*  
DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS.

\*\*\* IF GV07 DOES NOT EQUAL 01-49, DO NOT COMPLETE \*\*\*  
THE EXTERIOR VEHICLE, INTERIOR VEHICLE,  
OCCUPANT ASSESSMENT, AND OCCUPANT INJURY FORMS.

## EXTERIOR VEHICLE FORM

**NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM**

1. Primary Sampling Unit Number

10

3. Vehicle Number

01

2. Case Number - Stratum

9411

VEHICLE IDENTIFICATION

VIN

LG3AG55MOR6

Model Year

94

Vehicle Make (specify):

OLDSMOBILE

Vehicle Model (specify):

Ciera S

LOCATOR

Locate the end of the damage with respect to the vehicle longitudinal center line or bumper corner for end impacts or an undamaged axle for side impacts.

Specific Impact No.	Location of Direct Damage	Location of Field L
01 + 02	UNKNOWN where it starts	
03	25cm REAR of RR axle forward 291	
04	10 cm in front (R) BC	

CRUSH PROFILE IN CENTIMETERS

NOTES: Identify the plane at which the C-measurements are taken (e.g., at bumper, above bumper, at sill, above sill, etc.) and label adjustments (e.g., free space).

Measure and document on the vehicle diagram the location of maximum crush.

Measure C1 to C6 from driver to passenger side in front or rear impacts and rear to front in side impacts.

Free space value is defined as the distance between the baseline and the original body contour taken at the individual C locations. This may include the following: bumper lead, bumper taper, side protrusion, side taper, etc. Record the value for each C-measurement and maximum crush.

Use as many lines/columns as necessary to describe each damage profile.

Specific Impact Number	Plane of Impact C-Measurements	Direct Damage		Field L	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	C <sub>6</sub>	±D
		Width (CDC)	Max Crush								
4	Front Bumper	42	152	48	32	50	74	152	151	151	+47
	FREE		11		14	5	10	11	12	14	
	FINAL		141		18	45	64	141	139	137	
3	MIDline	291	8cm	292	MASKED DAMAGE						-12
1 & 2	Above beltline		2cm	15							

## ORIGINAL SPECIFICATIONS WORK SHEET

Wheelbase	<u>104.9</u> inches	x 2.54 =	<u>266</u> cm	
Overall Length	<u>190.3</u> inches	x 2.54 =	<u>483</u> cm	
Maximum Width	<u>69.5</u> inches	x 2.54 =	<u>177</u> cm	
Curb Weight	<u>2,833</u> pounds	x .4536 =	<u>1,285</u> kg	I-4
Average Track	<u>57.9</u> inches	x 2.54 =	<u>147</u> cm	
Front Overhang	<u>    </u> inches	x 2.54 =	<u>112</u> cm	
Rear Overhang	<u>    </u> inches	x 2.54 =	<u>109</u> cm	
Undeformed End Width	<u>    </u> inches	x 2.54 =	<u>156</u> cm	
Engine Size: cyl./displ.	<u>    </u> cc	x .001 =	<u>3.1</u> L	V-6
	<u>    </u> CID	x .0164 =	<u>    </u> L	

Shipping weight	V-6	3.1L	2872
"	I4	2.2L	2862
			<u>10</u>
Curb Weight	V-6	3.1L	2,833
			<u>2843</u>

1290 kg

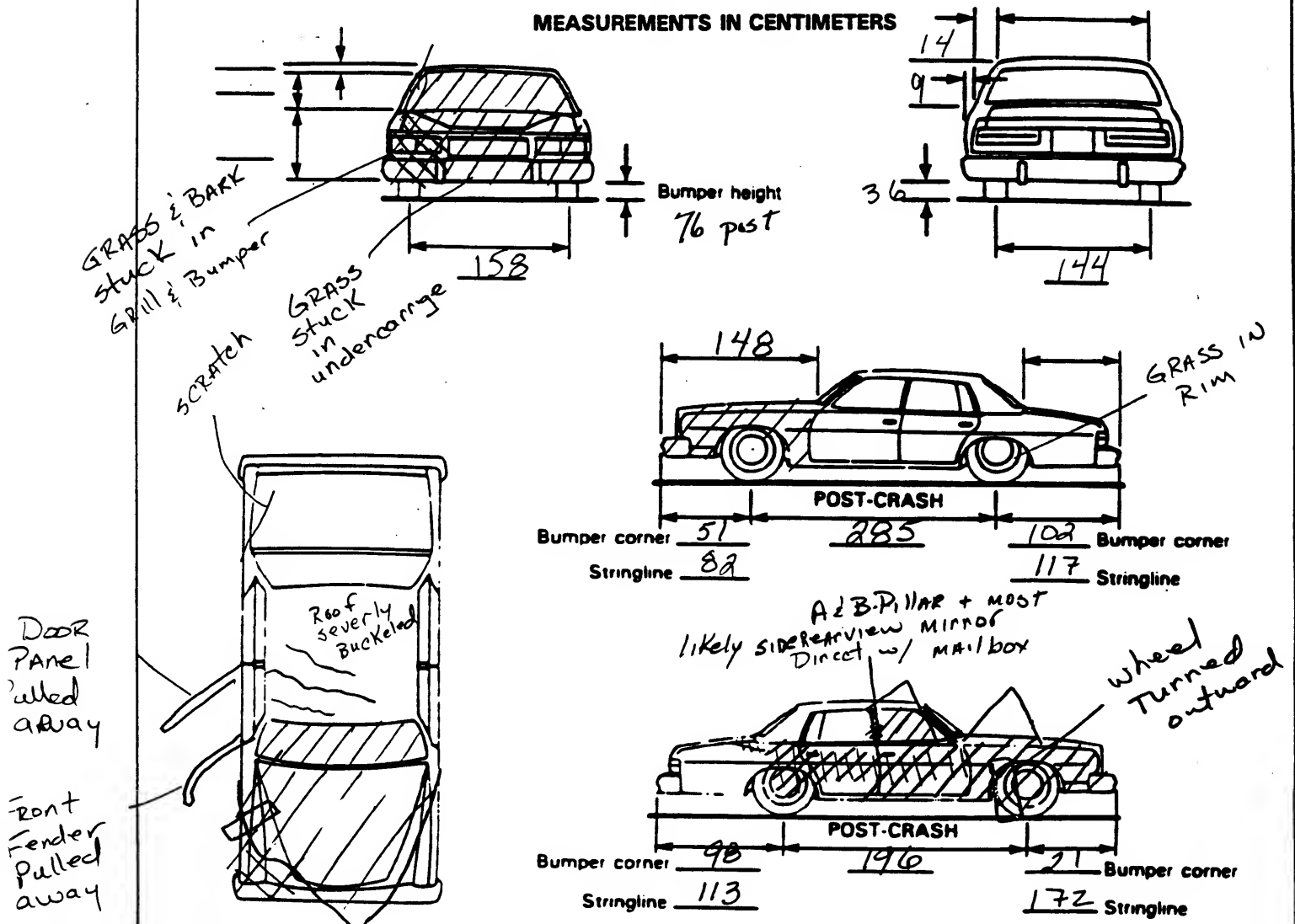
## National Accident Sampling System-Crashworthiness Data System: Exterior Vehicle Form

Page 2a

## VEHICLE DAMAGE SKETCH

<b>TIRE—WHEEL DAMAGE</b> a. Rotation physically restricted RF <u>1</u> LF <u>2</u> RR <u>2</u> LR <u>2</u> (1) Yes (2) No (8) NA (9) Unk.		b. Tire deflated RF <u>1</u> LF <u>2</u> RR <u>2</u> LR <u>2</u>		<b>ORIGINAL SPECIFICATIONS</b> Wheelbase <u>266</u> cm Overall Length <u>483</u> cm Maximum Width <u>177</u> cm Curb Weight <u>1290</u> kg Average Track <u>147</u> cm Front Overhang <u>112</u> cm Rear Overhang <u>109</u> cm Undeformed End Width <u>156</u> cm Engine Size: cyl./displ. <u>3.1</u> L		<b>WHEEL STEER ANGLES</b> (For locked front wheels or displaced rear axles only) RF ± _____ ° LF ± _____ ° RR ± _____ ° LR ± _____ ° Within ± 5 degrees	
<b>TYPE OF TRANSMISSION</b> <input type="checkbox"/> Manual <input checked="" type="checkbox"/> Automatic				<b>DRIVE WHEELS</b> <input checked="" type="checkbox"/> FWD <input type="checkbox"/> RWD <input type="checkbox"/> 4WD			
				Approximate Cargo Weight _____ kg			

## MEASUREMENTS IN CENTIMETERS



NOTES: Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewalls, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.

Annotate any damage caused by extraction such as component removal by torching, prying, or hydraulic shears.

171  
114  
285



## COLLISION DEFORMATION CLASSIFICATION

## HIGHEST DELTA "V"

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Longitudinal or Lateral Location	(5) Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4. <u>04</u>	5. <u>42</u>	6. <u>12</u>	7. <u>F</u>	8. <u>R</u>	9. <u>E</u>	10. <u>W</u>	11. <u>05</u>

## Second Highest Delta "V"

12. <u>03</u>	13. <u>50</u>	14. <u>12</u>	15. <u>R</u>	16. <u>Z</u>	17. <u>A</u>	18. <u>S</u>	19. <u>01</u>
---------------	---------------	---------------	--------------	--------------	--------------	--------------	---------------

## CRUSH PROFILE IN CENTIMETERS

The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. (ALL MEASUREMENTS ARE IN CENTIMETERS.)

## HIGHEST DELTA "V"

20. L	21. C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	C <sub>6</sub>	22. ±D
<u>156</u>	<u>032</u>	<u>050</u>	<u>074</u>	<u>152</u>	<u>151</u>	<u>151</u>	<u>⊕047</u>

## Second Highest Delta "V"

23. L	24. C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	C <sub>6</sub>	25. ±D
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

26. Are CDCs Documented but Not Coded on The Automated File? 1

(0) No  
(1) Yes

27. Researcher's Assessment of Vehicle Disposition 1

(0) Not towed due to vehicle damage  
(1) Towed due to vehicle damage  
(9) Unknown

28. Original Wheelbase 266  
Code to the nearest centimeter  
(999) Unknown

\_\_\_\_\_ inches X 2.54 = \_\_\_\_\_ centimeters



29. Is This A Multi-Stage Manufactured Vehicle And/Or A Certified Altered Vehicle? 0

- (0) No post manufacturer modifications  
(1) Yes - post manufacturer modifications (specify): \_\_\_\_\_

(Include photograph of CERTIFICATION PLACARD in case report)

- (9) Unknown if vehicle is modified

30. Fire Occurrence 0

- (0) No fire

Yes, fire occurred

- (1) Minor  
(2) Major  
(9) Unknown

31. Origin of Fire 0

- (0) No fire  
(1) Vehicle exterior (front, side, back, top)  
(2) Exhaust system  
(3) Fuel tank (and other fuel retention system parts)  
(4) Engine compartment  
(5) Cargo/trunk compartment  
(6) Instrument panel  
(7) Passenger compartment area  
(8) Other location (specify): \_\_\_\_\_

- (9) Unknown

32. Type of Fuel Tank-1 1

33. Type of Fuel Tank-2 0

- (0) No fuel tank (electrical vehicle)  
(1) Metallic  
(2) Non-metallic  
(9) Unknown

34. Fuel Tank-1 Location 4

35. Fuel Tank-2 Location 0

- (0) No fuel tank  
(1) Aft of center of the rear wheels (rear axle) centered  
(2) Aft of center of the rear wheels (rear axle) left side  
(3) Aft of center of the rear wheels (rear axle) right side  
(4) Forward of center of the rear wheels (rear axle) centered  
(5) Forward of center of the rear wheels (rear axle) left side  
(6) Forward of center of the rear wheels (rear axle) right side  
(7) Over center of the rear wheels (rear axle)  
(8) Other (specify): \_\_\_\_\_

- (9) Unknown

36. Fuel Tank-1 Filler Cap Location 2

37. Fuel Tank-2 Filler Cap Location 0

- (0) No fuel tank  
(1) On back plane  
(2) Aft of center of the rear wheels (rear axle) on left side plane  
(3) Aft of center of the rear wheels (rear axle) on right side plane  
(4) Forward of center of the rear wheels (rear axle) on left side plane  
(5) Forward of center of the rear wheels (rear axle) on right side plane  
(6) Over the center of the rear wheels (rear axle) on left side plane  
(7) Over the center of the rear wheels (rear axle) on right side plane  
(8) Other (specify): \_\_\_\_\_  
(9) Unknown

38. Fuel Tank-1 Damage 1

39. Fuel Tank-2 Damage 0

- (0) No fuel tank  
(1) No damage to fuel tank  
(2) Deformed, no seam failure  
(3) Deformed, with a seam failure  
(4) Punctured  
(5) Lacerated (ripped)  
(6) Abraded (scraped)  
(7) Filler neck separation from the fuel tank  
(8) Other damage (specify): \_\_\_\_\_

- (9) Unknown

<p>40. Location of Fuel System-1 Leakage <span style="float: right;"><u>1</u></span></p> <p>41. Location of Fuel System-2 Leakage <span style="float: right;"><u>0</u></span></p> <p style="margin-left: 20px;">(0) No fuel tank (1) No fuel leakage</p> <p><i>Primary Area Of Leakage</i></p> <p style="margin-left: 20px;">(2) Tank (3) Filler neck (4) Cap (5) Lines/pump/filter (6) Vent/emission recovery (8) Other (specify): _____</p> <p style="margin-left: 20px;">(9) Unknown</p> <p>42. Fuel Type-1 <span style="float: right;"><u>01</u></span></p> <p>43. Fuel Type-2 <span style="float: right;"><u>00</u></span></p> <p><i>Single Fuel Type</i></p> <p style="margin-left: 20px;">(00) No fuel tank (01) Gasoline (02) Diesel (03) CNG (Compressed Natural Gas) (04) LPG (Liquid Petroleum Gas) also known as Propane (05) LNG (Liquid Natural Gas) (06) Methanol (M100 or M85) (07) Ethanol (E100 or E85) (08) Other (Hydrogen or others) (specify): _____</p> <p><i>Electric Powered or Electric/Solar Powered Vehicles</i></p> <p style="margin-left: 20px;">(10) Lead Acid Battery (11) Nickel-Iron Battery (12) Nickel-Cadmium Battery (13) Sodium Metal Chloride Battery (14) Sodium Sulfur Battery (18) Other (Specify): _____</p> <p style="margin-left: 20px;">(98) Other Hybrid (specify): _____</p> <p style="margin-left: 20px;">(99) Unknown fuel type</p>	<p>44. Is This Vehicle Equipped With More Than Two Fuel Tanks? <span style="float: right;"><u>0</u></span></p> <p style="margin-left: 20px;">(0) No (one or two tanks only)</p> <p><i>Yes - More Than Two Tanks</i></p> <p style="margin-left: 20px;">(1) Yes -- <u>no damage</u> to any tank or filler cap and <u>no fuel system leakage</u> (2) Yes -- <u>no damage</u> to any tank or filler cap but <u>there is fuel system leakage</u> (specify leakage location): _____ (3) Yes -- <u>damage</u> to an additional tank or filler cap and <u>there is fuel system leakage</u> (specify the following):  Type of tank _____  Tank location _____  Filler cap location _____  Tank damage _____  Location of leakage _____  Type of fuel _____</p> <p style="margin-left: 20px;">(9) Unknown if more than two tanks</p> <div style="text-align: center; border: 1px solid black; padding: 5px; margin-top: 10px;"> <b>COMMENTS</b> </div> <div style="border: 1px solid black; height: 150px; margin-top: 5px;"></div>
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\*\*\* STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED AND WAS NOT AN AOPS \*\*\*  
(I.E., GV09=0 OR 9 AND GV36=0), DO NOT COMPLETE THE INTERIOR VEHICLE FORM.



## INTERIOR VEHICLE FORM

1. Primary Sampling Unit Number

2. Case Number - Stratum

3. Vehicle Number

### INTEGRITY

4. Passenger Compartment Integrity

(00) No integrity loss

Yes, Integrity Was Lost Through

(01) Windshield

(02) Door (side)

(03) Door/hatch (back door)

(04) Roof

(05) Roof glass

(06) Side window

(07) Rear window (backlight)

(08) Roof and roof glass

(09) Windshield and door (side)

(10) Windshield and roof

(11) Side and rear window (side window and backlight)

(12) Windshield and side window

(13) Door and side window

(98) Other combination of above (specify):

(99) Unknown

Door, Tailgate or Hatch Opening

5. LF 1 6. RF 3 7. LR 1 8. RR 3 9. TG/H 0

(0) No door/gate/hatch

(1) Door/gate/hatch remained closed and operational

(2) Door/gate/hatch came open during collision

(3) Door/gate/hatch jammed shut

(8) Other (specify):

(9) Unknown

Damage/Failure Associated with Door, Tailgate or Hatch Opening in Collision. If IV05-IV09 ≠ 2, Then code 0

10. LF 0 11. RF 0 12. LR 0 13. RR 0 14. TG/H 0

(0) No door/gate/hatch or door not opened

Door, Tailgate or Hatch Came Open During Collision

(1) Door operational (no damage)

(2) Latch/striker failure due to damage

(3) Hinge failure due to damage

(4) Door structure failure due to damage

(5) Door support (i.e., pillar, sill, roof side rail, etc.) failure due to damage

(6) Latch/striker and hinge failure due to damage

(8) Other failure (specify):

(9) Unknown

### GLAZING

Glazing Damage from Impact Forces

15. WS 2 16. LF 0 17. RF 6 18. LR 0 19. RR 0  
20. BL 0 21. Roof 8 22. Other 8

(0) No glazing damage from impact forces

(2) Glazing in place and cracked from impact forces

(3) Glazing in place and holed from impact forces

(4) Glazing out-of-place (cracked or not) and not holed from impact forces

(5) Glazing out-of-place and holed from impact forces

(6) Glazing disintegrated from impact forces

(7) Glazing removed prior to accident

(8) No glazing

(9) Unknown if damaged

Glazing Damage from Occupant Contact

23. WS 0 24. LF 0 25. RF 0 26. LR 0 27. RR 0  
28. BL 0 29. Roof 0 30. Other 0

(0) No occupant contact to glazing or no glazing

(1) Glazing contacted by occupant but no glazing damage

(2) Glazing in place and cracked by occupant contact

(3) Glazing in place and holed by occupant contact

(4) Glazing out-of-place (cracked or not) by occupant contact and not holed by occupant contact

(5) Glazing out-of-place by occupant contact and holed by occupant contact

(6) Glazing disintegrated by occupant contact

(9) Unknown if contacted by occupant

If No Glazing Damage *And* No Occupant Contact or No Glazing, Then Code IV31 Through IV46 As 0

Type of Window/Windshield Glazing

31. WS 1 32. LF 6 33. RF 2 34. LR 0 35. RR 0  
36. BL 0 37. Roof 0 38. Other 0

(0) No glazing contact and no damage, or no glazing

(1) AS-1 - Laminated

(2) AS-2 - Tempered

(3) AS-3 - Tempered-tinted

(4) AS-14 - Glass/Plastic

(8) Other (specify):

(9) Unknown

Window Precrash Glazing Status

39. WS 1 40. LF 0 41. RF 2 42. LR 0 43. RR 0  
44. BL 0 45. Roof 0 46. Other 0

(0) No glazing contact and no damage, or no glazing

(1) Fixed

(2) Closed

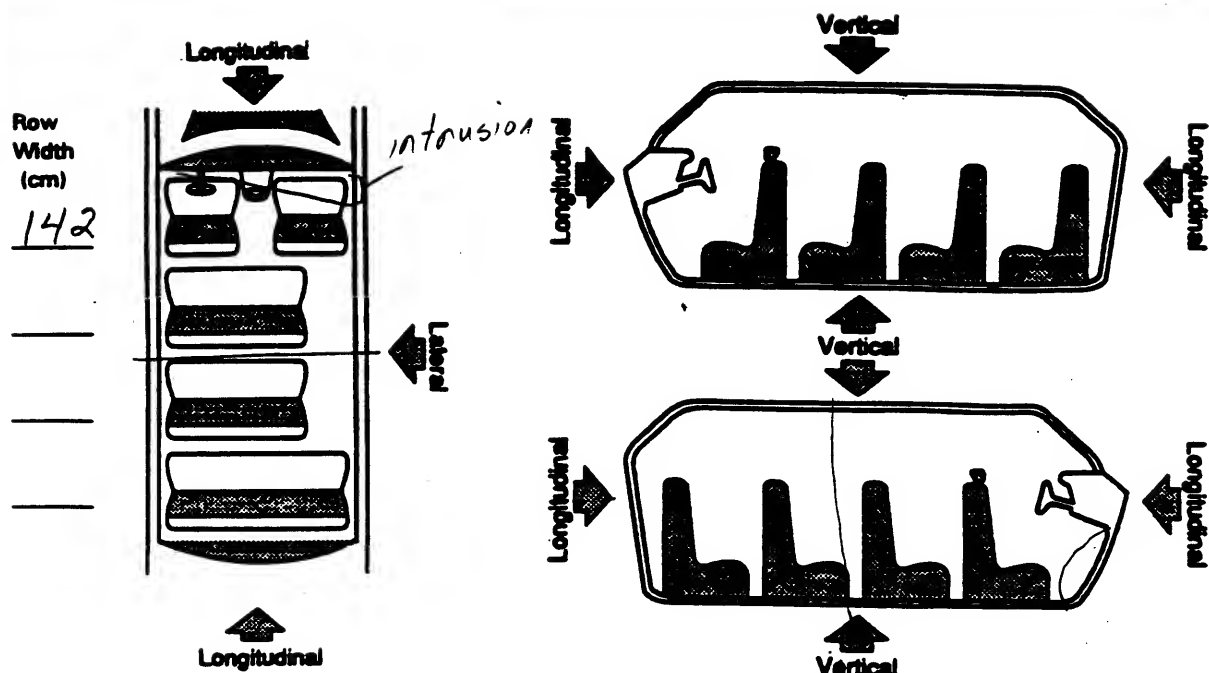
(3) Partially opened

(4) Fully opened

(9) Unknown

# INTRUSION WORKSHEET

Notes: Sketch intruded areas



LOCATION OF INTRUSION	INTRUDED COMPONENT	(All Measurements Are In Centimeters)			DOMINANT CRUSH DIRECTION
		COMPARISON VALUE	-	INTRUDED VALUE	
11	DASHBOARD	160	-	140	= 20 LONG. ⑩
12	"	160	-	122	= 38 LONG. ⑦
13	DASHBOARD	165	-	100	= 65 LONG. ①
11	TOEPAN	201	-	160 <sup>GAS PEDAL</sup>	= 41 LONG. ⑥
12	"	207	-	152	= 55 LONG. ③
13	"	207	-	149	= 58 LONG. ②
13	A-PILLAR	29	-	74	= 45 LONG. ⑤
13	SEAT BACK	19	-	1	= 18 LONG
- 12	"	19	-	2 1/2	= 16 1/2 LONG
11	steering wheel	140	-	119	= 21 LONG ⑨
13	FLOOR	22	-	7	= 15 VERT
12	"	9	-	5	= 4 VERT
11	"	22	-	10	= 12 VERT
13	Windshield	184	-	136	= 48 LONG ④
12	"	186	-	160	= 26 LONG ⑧
13	B-PILLAR	Document no more than the 15 most severe intrusions			LAT
13	HEADER	53	-	6 1/2	= 5 1/2 LONG
				65	= 12

## OCCUPANT AREA INTRUSION

Note: If no intrusions, leave variables IV47-IV86 blank.

	Location of Intrusion	Intruding Component	Magnitude of Intrusion	Dominant Crush Direction
1st	47. <u>1</u> <u>3</u>	48. <u>0</u> <u>4</u>	49. <u>6</u>	50. <u>2</u>
2nd	51. <u>1</u> <u>3</u>	52. <u>0</u> <u>5</u>	53. <u>5</u>	54. <u>2</u>
3rd	55. <u>1</u> <u>2</u>	56. <u>0</u> <u>5</u>	57. <u>5</u>	58. <u>2</u>
4th	59. <u>1</u> <u>3</u>	60. <u>1</u> <u>4</u>	61. <u>5</u>	62. <u>2</u>
5th	63. <u>1</u> <u>3</u>	64. <u>0</u> <u>6</u>	65. <u>4</u>	66. <u>2</u>
6th	67. <u>1</u> <u>1</u>	68. <u>0</u> <u>5</u>	69. <u>4</u>	70. <u>2</u>
7th	71. <u>1</u> <u>2</u>	72. <u>0</u> <u>3</u>	73. <u>4</u>	74. <u>2</u>
8th	75. <u>1</u> <u>2</u>	76. <u>1</u> <u>4</u>	77. <u>3</u>	78. <u>2</u>
9th	79. <u>1</u> <u>1</u>	80. <u>0</u> <u>1</u>	81. <u>3</u>	82. <u>2</u>
10th	83. <u>1</u> <u>1</u>	84. <u>0</u> <u>2</u>	85. <u>3</u>	86. <u>2</u>

## LOCATION OF INTRUSION

Front Seat  
 (11) Left  
 (12) Middle  
 (13) Right

Second Seat  
 (21) Left  
 (22) Middle  
 (23) Right

Third Seat  
 (31) Left  
 (32) Middle  
 (33) Right

Fourth Seat  
 (41) Left  
 (42) Middle  
 (43) Right

(97) Catastrophic  
 (98) Other enclosed area (specify)

(99) Unknown

## INTRUDING COMPONENT

## Interior Components

- (01) Steering assembly
- (02) Instrument panel left
- (03) Instrument panel center
- (04) Instrument panel right
- (05) Toe pan
- (06) A (A1/A2)-pillar
- (07) B-pillar
- (08) C-pillar
- (09) D-pillar
- (10) Door panel (side)
- (12) Roof (or convertible top)
- (13) Roof side rail
- (14) Windshield
- (15) Windshield header
- (16) Window frame
- (17) Floor pan (includes sill)
- (18) Backlight header
- (19) Front seat back
- (20) Second seat back
- (21) Third seat back
- (22) Fourth seat back
- (23) Fifth seat back
- (24) Seat cushion
- (25) Back door/panel (e.g., tailgate)
- (26) Other interior component (specify):

- (27) Side panel - forward of the A (A2)-pillar
- (28) Side panel - rear of the A (A2)-pillar

## Exterior Components

- (30) Hood
- (31) Outside surface of this vehicle (specify):
- (32) Other exterior object in the environment (specify):
- (33) Unknown exterior object
- (97) Catastrophic
- (98) Intrusion of unlisted component(s) (specify):
- (99) Unknown

## MAGNITUDE OF INTRUSION

- (1)  $\geq 3$  centimeters but  $< 8$  centimeters
- (2)  $\geq 8$  centimeters but  $< 15$  centimeters
- (3)  $\geq 15$  centimeters but  $< 30$  centimeters
- (4)  $\geq 30$  centimeters but  $< 46$  centimeters
- (5)  $\geq 46$  centimeters but  $< 61$  centimeters
- (6)  $\geq 61$  centimeters
- (7) Catastrophic
- (9) Unknown

## DOMINANT CRUSH DIRECTION

- (1) Vertical
- (2) Longitudinal
- (3) Lateral
- (7) Catastrophic
- (9) Unknown

## STEERING RIM SPOKE DEFORMATION

(All Measurements Are in Centimeters)

COMPARISON VALUE

—

DAMAGE VALUE

=

DEFORMATION

—

=

—

=

—

=

—

=

## STEERING COLUMN

87. Steering Column Type 2
- (1) Fixed column  
 (2) Tilt column  
 (3) Telescoping column  
 (4) Tilt and telescoping column  
 (8) Other column type (specify):  
 (9) Unknown

88. Blank X X  
 (This variable is left blank so that numbering consistency can be maintained with the 1988-94 CDS.

89. Blank X X X  
 (This variable is left blank so that numbering consistency can be maintained with the 1988-94 CDS.

90. Blank X X X  
 (This variable is left blank so that numbering consistency can be maintained with the 1988-94 CDS.

91. Blank X X X  
 (This variable is left blank so that numbering consistency can be maintained with the 1988-94 CDS.

92. Steering Rim/Spoke Deformation 00  
 Code actual measured deformation to the nearest centimeter  
 (00) No steering rim deformation  
 (01-14) Actual measured value in centimeters  
 (15) 15 centimeters or more  
 (98) Observed deformation cannot be measured  
 (99) Unknown

93. Location of Steering Rim/Spoke Deformation 00  
 (00) No steering rim deformation

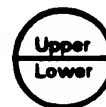
## Quarter Sections

- (01) Section A  
 (02) Section B  
 (03) Section C  
 (04) Section D



## Half Sections

- (05) Upper half of rim/spoke  
 (06) Lower half of rim/spoke  
 (07) Left half of rim/spoke  
 (08) Right half of rim/spoke



- (09) Complete steering wheel collapse  
 (10) Undetermined location  
 (99) Unknown

## INSTRUMENT PANEL

94. Odometer Reading 023,000

\_\_\_\_\_ kilometers—Code to the nearest 1,000 kilometers  
 (000) No odometer  
 (001) Less than 1,500 kilometers  
 (500) 499,500 kilometers or more  
 (999) Unknown

14197 miles X 1.6093 = 22847 kilometers

Source: ODOMETER

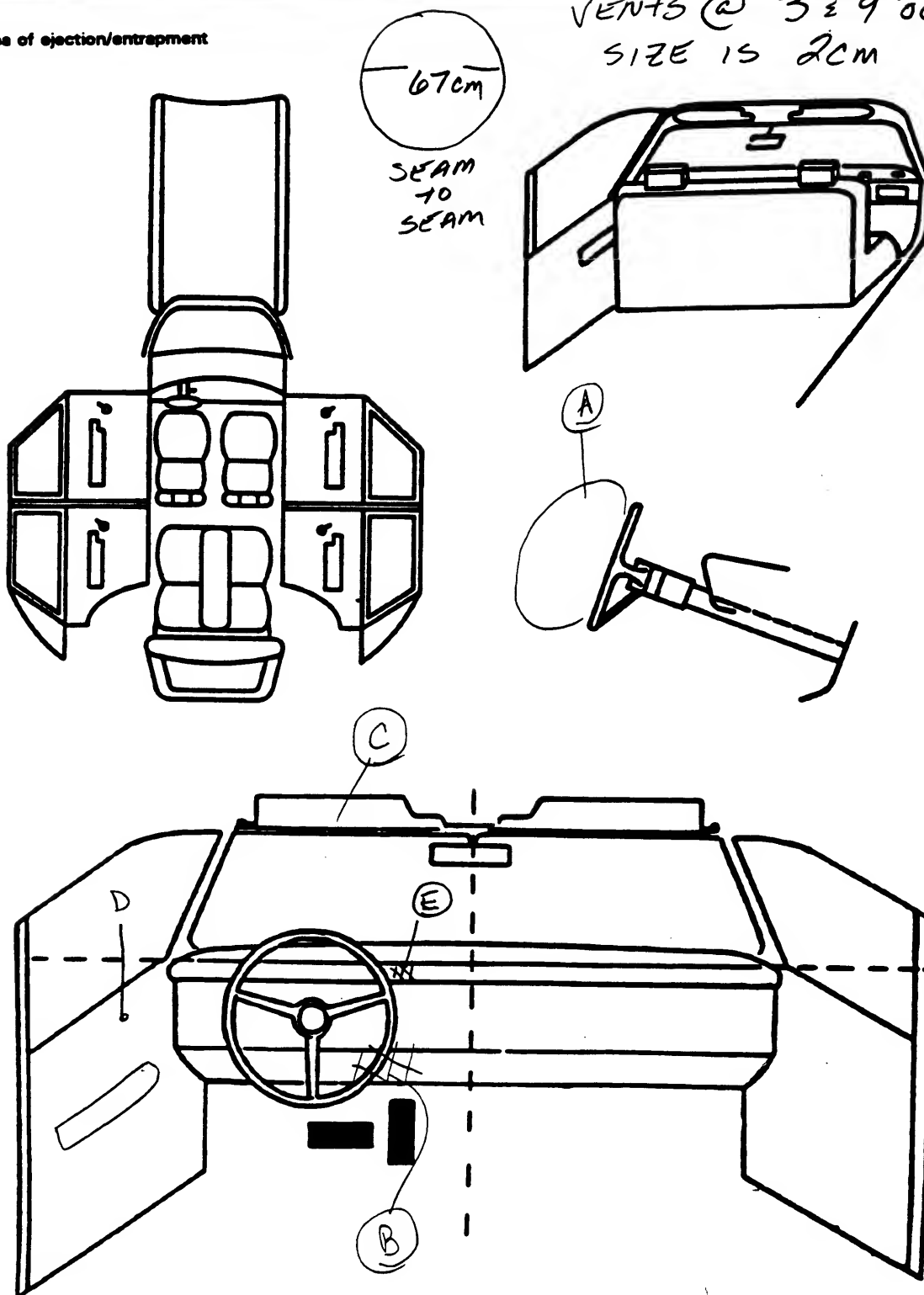
95. Instrument Panel Damage from Occupant Contact? 1  
 (0) No  
 (1) Yes  
 (9) Unknown

96. Knee Bolsters Deformed from Occupant Contact? 1  
 (0) No  
 (1) Yes  
 (8) Not present  
 (9) Unknown

97. Did Glove Compartment Door Open During Collision(s)? 1  
 (0) No  
 (1) Yes  
 (8) Not present  
 (9) Unknown

## VEHICLE INTERIOR SKETCHES

Note area of ejection/entrapment



Sketch windshield contact(s) and the damaged area(s) on the instrument panel outline (e.g., radio, glove compartment, damage to instrument panel structure).

Cross hatch contact points, draw spider webs or use other annotation as may be appropriate.

Annotate the contacted area with a letter (begin with A) and list on the Points of Occupant Contact page.



## POINTS OF OCCUPANT CONTACT

Contact	Interior Component Contacted	Occupant No. If Known	Body Region If Known	Supporting Physical Evidence	Confidence Level of Contact Point
A	45	1	FACE CHEST	Blood SKIN transfer	(1)
B	09	1	(R) KNEE	Broken out	(2)
C	03	1	HEAD	scuff strand of hair	3
D	20	1	UNK	Blood drop	3
E	09	1	(R) ARM	Dent	(2)
F					
G					
H					
I					
J					
K					
L					
M					
N					

## CODES FOR INTERIOR COMPONENTS

## FRONT

- (01) Windshield
- (02) Mirror
- (03) Sunvisor
- (04) Steering wheel rim
- (05) Steering wheel hub/spoke
- (06) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add on equipment (e.g., CB, tape deck, air conditioner)
- (09) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knee bolster
- (14) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (16) Driver side air bag compartment cover
- (17) Passenger side air bag compartment cover
- (18) Windshield reinforced by exterior object (specify): \_\_\_\_\_
- (19) Other front object (specify): \_\_\_\_\_

## LEFT SIDE

- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A (A1/A2)-pillar

- (23) Left B-pillar
- (24) Other left pillar (specify): \_\_\_\_\_

- (25) Left side window glass or frame
- (26) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.

- (27) Other left side object (specify): \_\_\_\_\_

- (28) Left side window sill

## RIGHT SIDE

- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A (A1/A2)-pillar
- (33) Right B-pillar
- (34) Other right pillar (specify): \_\_\_\_\_
- (35) Right side window glass or frame
- (36) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B pillar, or roof side rail.
- (37) Other right side object (specify): \_\_\_\_\_
- (38) Right side window sill

## INTERIOR

- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar attachment point
- (43) Other restraint system component (specify): \_\_\_\_\_
- (44) Head restraint system
- (45) Air bag (use codes "16" and "17" for injuries sustained from air bag compartment covers)

- (46) Other occupants (specify): \_\_\_\_\_

- (47) Interior loose objects
- (48) Child safety seat (specify): \_\_\_\_\_

- (49) Other interior object (specify): \_\_\_\_\_

## ROOF

- (50) Front header
- (51) Rear header
- (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

## FLOOR

- (56) Floor (including toe pan)
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking brake

## REAR

- (60) Backlight (rear window)
- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify): \_\_\_\_\_

## CONFIDENCE LEVEL OF CONTACT POINT

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

## AUTOMATIC RESTRAINTS

**NOTES:** Encode the data for each applicable front seat position. The attributes for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

### AIR BAGS

		Left	Right
F I R S T	Availability/Function	/	0
	Deployment	/	0
	Failure	/	0

#### Air Bag System Availability/Function

- (0) Not equipped/not available  
(1) Air bag

#### Non-functional

- (2) Air bag disconnected (specify):  
\_\_\_\_\_  
(3) Air bag not reinstalled  
(9) Unknown

#### Air Bag System Deployment

- (0) Not equipped/not available  
(1) Air bag deployed during accident (as a result of impact)  
(2) Air bag deployed inadvertently just prior to accident  
(3) Air bag deployed, accident sequence undetermined  
(4) Nondeployed  
(5) Unknown if deployed  
(6) Air bag deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)  
(9) Unknown

#### Are There Indications of Air Bag System Failure?

- (0) Not equipped/not available  
(1) No  
(2) Yes (specify):  
\_\_\_\_\_  
(9) Unknown

### AUTOMATIC BELTS

		Left	Right
F I R S T	Availability/Function	4	4
	Use	0	0
	Type	/	/
	Proper Use	0	0
	Failure Modes	0	0

#### Automatic (Passive) Belt System Availability/Function

- (0) Not equipped/not available  
(1) 2 point automatic belts  
(2) 3 point automatic belts  
(3) Automatic belts - type unknown

#### Non-functional

- (4) Automatic belts destroyed or rendered inoperative  
(9) Unknown

#### Automatic (Passive) Belt System Use

- (0) Not equipped/not available/destroyed or rendered inoperative  
(1) Automatic belt in use  
(2) Automatic belt not in use (manually disconnected, motorized track inoperative)  
(3) Automatic belt use unknown  
(9) Unknown

#### Automatic (Passive) Belt System Type

- (0) Not equipped/not available  
(1) Non-motorized system  
(2) Motorized system  
(9) Unknown

#### Proper Use of Automatic (Passive) Belt System

- (0) Not equipped/not available/not used  
(1) Automatic belt used properly  
(2) Automatic belt used properly with child safety seat

#### Automatic Belt Used Improperly

- (3) Automatic shoulder belt worn under arm  
(4) Automatic shoulder belt worn behind back  
(5) Automatic belt worn around more than one person  
(6) Lap portion of automatic belt worn on abdomen  
(7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify):  
\_\_\_\_\_  
(8) Other improper use of automatic belt system (specify):  
\_\_\_\_\_  
(9) Unknown

#### Automatic (Passive) Belt Failure Modes During Accident

- (0) Not equipped/not available/not in use  
(1) No automatic belt failure(s)  
(2) Torn webbing (stretched webbing not included)  
(3) Broken buckle or latchplate  
(4) Upper anchorage separated  
(5) Other anchorage separated (specify):  
\_\_\_\_\_  
(6) Broken retractor  
(7) Combination of above (specify):  
\_\_\_\_\_  
(8) Other automatic belt failure (specify):  
\_\_\_\_\_  
(9) Unknown

## MANUAL RESTRAINTS

**NOTES:** Encode the applicable data for each seat position in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

If a Child safety seat is present, encode the data on the back of this page.

If the vehicle has automatic restraints available, encode the appropriate data on the back of the previous page.

		Left	Center	Right
FIRST	Availability		3	
	Evidence of usage		0	
	Used in this crash?		0	
	Proper Use		0	
	Failure Modes		0	
SECOND	Availability	4	3	4
	Evidence of usage	0	0	0
	Used in this crash?	0	0	0
	Proper Use	0	0	0
	Failure Modes	0	0	0
OTHER	Availability			
	Evidence of usage			
	Used in this crash?			
	Proper Use			
	Failure Modes			

**Manual (Active) Belt System Availability**

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available - type unknown

**Integral Belt Partially Destroyed**

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)

(8) Other belt (specify): \_\_\_\_\_

(9) Unknown

**Manual (Active) Belt System Use**

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperable (specify): \_\_\_\_\_

(02) Shoulder belt

(03) Lap belt

(04) Lap and shoulder belt

(05) Belt used - type unknown

(08) Other belt used (specify): \_\_\_\_\_

(12) Shoulder belt used with child safety seat

(13) Lap belt used with child safety seat

(14) Lap and shoulder belt used with child safety seat

(15) Belt used with child safety seat - type unknown

(18) Other belt used with child safety seat (specify): \_\_\_\_\_

(99) Unknown if belt used

**Proper Use of Manual (Active) Belts**

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

**Belt Used Improperly**

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): \_\_\_\_\_

(8) Other improper use of manual belt system (specify): \_\_\_\_\_

(9) Unknown

**Manual (Active) Belt Failure Modes During Accident**

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): \_\_\_\_\_

(6) Broken retractor

(7) Combination of above (specify): \_\_\_\_\_

(8) Other manual belt failure (specify): \_\_\_\_\_

(9) Unknown

## CHILD SAFETY SEAT FIELD ASSESSMENT

When a child safety seat is present enter the occupant's number in the first row and complete the column below the occupant's number using the codes listed below. Complete a column for each child safety seat present.

Occupant Number						
1. Type of Child Safety Seat						
2. Child Safety Seat Orientation						
3. Child Safety Seat Harness Usage						
4. Child Safety Seat Shield Usage						
5. Child Safety Seat Tether Usage						
6. Child Safety Seat Make/Model	Specify Below for Each Child Safety Seat					

### 1. Type of Child Safety Seat

- (0) No child safety seat
- (1) Infant seat
- (2) Toddler seat
- (3) Convertible seat
- (4) Booster seat
- (7) Other type child safety seat (specify): \_\_\_\_\_
- (8) Unknown child safety seat type
- (9) Unknown if child safety seat used

### 2. Child Safety Seat Orientation

- (00) No child safety seat
- Designed for Rear Facing for This Age/Weight
- (01) Rear facing
- (02) Forward facing
- (08) Other orientation (specify): \_\_\_\_\_
- (09) Unknown orientation

Designed for Forward Facing for This Age/Weight

- (11) Rear facing
- (12) Forward facing
- (18) Other orientation (specify): \_\_\_\_\_

- (19) Unknown orientation

Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight

- (21) Rear facing
- (22) Forward facing
- (28) Other orientation (specify): \_\_\_\_\_

- (29) Unknown orientation

- (99) Unknown if child safety seat used

### 3. Child Safety Seat Harness Usage

### 4. Child Safety Seat Shield Usage

### 5. Child Safety Seat Tether Usage

Note: Options Below Are Used for Variables 3-5.

- (00) No child safety seat

Not Designed with Harness/Shield/Tether

- (01) After market harness/shield/tether added, not used
- (02) After market harness/shield/tether used
- (03) Child safety seat used, but no after market harness/shield/tether added
- (09) Unknown if harness/shield/tether added or used

Designed With Harness/Shield/Tether

- (11) Harness/shield/tether not used
- (12) Harness/shield/tether used
- (19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether

- (21) Harness/shield/tether not used
- (22) Harness/shield/tether used
- (29) Unknown if harness/shield/tether used

- (99) Unknown if child safety seat used

### 6. Child Safety Seat Make/Model

(Specify make/model and occupant number)

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## HEAD RESTRAINTS/SEAT EVALUATION

NOTES: Encode the applicable data for each seat position in the vehicle. The attribute for these variables may be found at the bottom of the page. Head restraint type/damage and seat type/performance should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

		Left	Center	Right
FIRST	Head Restraint Type/Damage	3	0	3
	Seat Type	06	06	06
	Seat Performance	1	06	06
	Seat Orientation	1	1	1
SECOND	Head Restraint Type/Damage	0	0	0
	Seat Type	03	03	03
	Seat Performance	1	1	1
	Seat Orientation	1	1	1
THIRD	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			
	Seat Orientation			
OTHER	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			
	Seat Orientation			

## Head Restraint Type/Damage by Occupant at This Occupant Position

- (0) No head restraints
- (1) Integral — no damage
- (2) Integral — damaged during accident
- (3) Adjustable — no damage
- (4) Adjustable — damaged during accident
- (5) Add-on — no damage
- (6) Add-on — damaged during accident
- (8) Other Specify: \_\_\_\_\_

(9) Unknown \_\_\_\_\_

## Seat Type (this Occupant Position)

- (00) Occupant not seated or no seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., column supported)
- (09) Other seat type (specify): \_\_\_\_\_

- (10) Box mounted seat (i.e., van type)
- (99) Unknown

## Seat Performance (this Occupant Position)

- (0) Occupant not seated or no seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks or "seat back" failed specify: \_\_\_\_\_
- (4) Seat tracks/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion (specify): \_\_\_\_\_

(7) Combination of above (specify): \_\_\_\_\_

(8) Other (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

## Seat Orientation (this Occupant Position)

- (0) Occupant not seated or no seat
- (1) Forward facing seat
- (2) Rear facing seat
- (3) Side facing seat (inward)
- (4) Side facing seat (outward)
- (8) Other (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE (I.E., UNUSUAL OCCUPANT CONTACT PATTERN)

## EJECTION ENTRAPMENT DATA

Complete the following if the researcher has any indication that an occupant was either ejected from or entrapped in the vehicle. Code the appropriate data on the Occupant Assessment Form.

EJECTION No ☒ Yes ☐

Describe indications of ejection and body parts involved in partial ejection(s):

---



---



---



---

Occupant Number						
Ejection						
(Note on Vehicle Interior Sketch) Ejection Area						
Ejection Medium						
Medium Status						

## Ejection

- (1) Complete ejection  
(2) Partial ejection  
(3) Ejection, Unknown degree  
(9) Unknown

## Ejection Area

- (1) Windshield  
(2) Left front  
(3) Right front  
(4) Left rear  
(5) Right rear  
(6) Rear

## (7) Roof

(8) Other area (e.g., back of pickup, etc.) (specify):

(9) Unknown

## Ejection Medium

- (1) Door/hatch/tailgate  
(2) Nonfixed roof structure  
(3) Fixed glazing  
(4) Nonfixed glazing (specify):

## (5) Integral structure

(8) Other medium (specify):

(9) Unknown

## Medium Status (Immediately Prior to Impact)

- (1) Open  
(2) Closed  
(3) Integral structure  
(9) Unknown

## ENTRAPMENT

No ☐ Yes ☒

Describe entrapment mechanism:

PER ENT DRIVER HAS NO  
memory of being trapped periodic unconsciousness

Component(s):

(Note in vehicle interior diagram)

**Appendix E:**

**NASS CDS INTERVIEW FORM:**

**CASE VEHICLE DRIVER**



## INTERVIEW FORM (A)

1. Primary Sampling Unit Number <u>10</u>	Interviewee(s) Role or Name(s): <u>DRIVER</u>
2. Case Number - Stratum <u>9411</u>	
3. Vehicle Number <u>01</u>	

Review all available information and interview questions prior to conducting interview(s) to ensure the acquisition of all pertinent data.

If the driver was not the person interviewed, was an appointment made for a follow-up interview?

### DRIVER'S DESCRIPTION OF ACCIDENT EVENTS

I was driving towards town and I hit a tree on left side of road Don't Really Remember Anything else.

### OCCUPANT'S DESCRIPTION OF ACCIDENT EVENTS



## ACCIDENT DIAGRAM



NORTH

The use of this diagram is optional. It may serve to aid in relating interviewee accident trajectory data (i.e., pre-impact to FRP orientations) to identifiable objects in the environment.



## INTERVIEW FORM (B)

1. Primary Sampling Unit Number 10  
2. Case Number - Stratum 9411  
3. Vehicle Number 01

Interviewee(s) Role or Name(s): DRIVER

### ACCIDENT DATA QUESTIONS

1. Can you tell me in which direction you were traveling?

☐ North ☐ South ☐ East ☒ West

(Optional - Where were you coming from or going to?  
\_\_\_\_\_

2. In which lane were you traveling?

(Note: Lane 1 is designated as the right curb lane.)

☒ (1) ☐ (2) ☐ (3) ☐ (4) ☐ Other (specify):  
\_\_\_\_\_

3. Can you remember your estimated travel speed (in miles per hour) before the accident?

unknown  
☐ Stopped ☐ 1-10 ☐ 10-20  
☐ 20-30 ☐ 30-40 ☐ 40-50  
☐ 50-60 ☐ 60-70 ☐ 70+

4. Just before the accident, can you tell me what you were intending to do or were doing?

☐ Going straight ☐ Stopped  
☐ slowing ☐ Accelerating  
☐ Turning left ☐ Turning right  
☐ Changing lanes to left ☐ Changing lanes to right  
☐ Backing  
☐ Other (specify): unk

5. Did you experience any loss of control due to weather conditions or mechanical problems?

☒ No  
☐ Yes (If yes, describe below)  
\_\_\_\_\_  
\_\_\_\_\_

6. Did you have to take any avoidance actions prior to the accident?

☐ No - Go to question 7  
☐ Yes - Go to question 6a

unknown

6a. What actions did you take?

☐ Braking with lock-up  
☐ Braking without lock-up  
☐ Releasing brakes  
☐ Accelerating  
☐ Steering left  
☐ Steering right  
☐ Other (specify):  
\_\_\_\_\_

7. Where was your vehicle at the time of the collision?

☐ Original travel lane ☐ Different travel lane  
☐ In intersection ☐ Off roadway to right  
☒ Off roadway to left  
☐ Other (specify):  
\_\_\_\_\_

8. Was your travel speed at the time of the collision different from your previous travel speed?

☐ No  
☐ Lower  
☒ Higher  
☐ Unknown

8a. Can you estimate your speed at the time of the collision?

High  
☐ Stopped ☐ 1-10 ☐ 10-20  
☐ 20-30 ☐ 30-40 ☐ 40-50  
☐ 50-60 ☐ 60-70 ☐ 70+

9. Immediately following the collision, can you describe how your vehicle moved to its stopped position?

unknown  
\_\_\_\_\_  
\_\_\_\_\_

10. Can you tell me how many collisions your vehicle had during the accident and the source of the collisions?

just the tree  
\_\_\_\_\_

1. Primary Sampling Unit Number

10

3. Vehicle Number

01

2. Case Number - Stratum

9411

4. Occupant Number

01

## VEHICLE/DRIVER DATA QUESTIONS

1. Can you tell me the year, make, model of your vehicle?

19                                                      
 Year                      Make                      Model

2. Can you describe the damage to your vehicle?

\_\_\_\_\_

\_\_\_\_\_

3. Was there any previous damage to your vehicle that is not related to this accident?

☒ No☐ Yes (If "yes", describe below)

\_\_\_\_\_

\_\_\_\_\_

4. Did any of the doors (hatch, tailgate) open during the accident?

☒ No☐ Yes (If "Yes", describe below)

\_\_\_\_\_

\_\_\_\_\_

5. Did any of the windows break during the accident?

☐ No☒ Yes (If "Yes", describe below)

\_\_\_\_\_

\_\_\_\_\_

6. Does your vehicle have a glove compartment?

☐ No☒ Yes

6a. Did the glove compartment door come open during the accident?

☐ No☐ Yes☒ Unknown

7. Does your vehicle have "seat belts"?

☐ No (If "No", go to question 7b)☒ Yes (If "Yes", go to question 7a)

7a. Can you describe the type of seat belt for each seat?

Driver's seat ☐ Lap ☐ Lap and shoulderFront seat middle ☐ Lap ☐ Lap and shoulderFront seat right ☐ Lap ☐ Lap and shoulderRear seat left ☐ Lap ☐ Lap and shoulderRear seat middle ☐ Lap ☐ Lap and shoulderRear seat right ☐ Lap ☐ Lap and shoulder

(Identify seat belts for third row and beyond)

\_\_\_\_\_

\_\_\_\_\_

7b. Were any of the belts removed or not functional prior to the accident?

☐ No☒ Yes (If "Yes", specify which belt and describe problem)LF + RF disconnected

8. Do any of the front belts move along a motorized track when the door is opened or closed?

☒ No (If "No", go to question 9)☐ Yes (If "Yes", what seat location?)☐ Left Front☐ Right Front

8a. Were the motorized belts working properly before the accident?

☐ No (If "No", describe condition below)

\_\_\_\_\_

\_\_\_\_\_

☐ Yes

8b. Were the belts connected to the track prior to the accident?

☐ No☐ Yes☐ Unknown

9. Do any of the front "seat" belts attach to the door such that when the door is opened the belt travels with the door?

☐ No (go to question 10)☒ Yes

9a. Does this belt come across the \_\_\_\_\_?

☐ Chest only☒ Lap and chest

9b. Was this belt connected prior to the accident?

☒ No☐ Yes☐ Unknown

## AIR BAGS

10. Is your vehicle equipped with a driver's side air bag?

☐ No (go to question 11)☒ Yes (go to question 10a)☐ Unknown (go to question 11)

10a. Did the air bag inflate during the accident?

☐ No (go to questions 10b and 10c)☒ Yes (go to question 10e)

1. Primary Sampling Unit Number

10

3. Vehicle Number

01

2. Case Number - Stratum

9411

4. Occupant Number

01

## VEHICLE/DRIVER DATA QUESTIONS (CONTINUED)

10b. Was the air bag wiring disconnected prior to the accident?

- ☐ No  
☐ Yes (If "Yes", describe previous condition)

\_\_\_\_\_  
☐ Unknown

10c. Was your vehicle involved in any accidents prior to this accident which inflated the air bag?

- ☐ No (go to question 11)  
☐ Yes (go to question 10d)  
☐ Unknown

10d. Was the air bag re-installed after the accident?

- ☐ No (go to question 11)  
☐ Yes  
☐ Unknown

10e. Did the air bag inflate as you expected?

- ☐ No (If "No" describe below)

☐ Yes  
☒ Unknown

11. Is your vehicle equipped with a passenger side air bag?

- ☒ No (If "No", go to question 12)  
☐ Yes (If "Yes", go to question 11a)  
☐ Unknown (If "Unknown", go to question 12)

11a. Did the passenger air bag inflate during the accident?

- ☐ No (go to question 11b)  
☐ Yes (go to question 12)

11b. Was the passenger air bag wiring disconnected prior to the accident?

- ☐ No  
☐ Yes (If "Yes", describe below)

\_\_\_\_\_  
☐ Unknown

11c. Was the passenger air bag inflated in a previous accident?

- ☐ No (go to question 12)  
☐ Yes (go to question 11d)  
☐ Unknown

11d. Was the passenger air bag re-installed after the accident?

- ☐ No (go to question 12)  
☐ Yes  
☐ Unknown

11e. Did the passenger air bag inflate as you expected?

- ☐ No (If "No" describe below)

☐ Yes  
☐ Unknown

## CHILD SAFETY SEAT

12. Was there a person in a child safety seat in your vehicle?

- ☒ No (If "No", go to question 13)  
☐ Yes  
☐ Unknown

12a. Can you tell me the manufacturer and model of the child safety seat?

\_\_\_\_\_  
 \_\_\_\_\_

12b. Can you describe the type of child safety seat?

- ☐ Infant  
☐ Toddler  
☐ Convertible  
☐ Booster  
☐ Other (specify): \_\_\_\_\_  
☐ Unknown

12c. Where was the child safety seat(s) located?

- [12] [13]  
 [21] [22] [23]  
 [31] [32] [33]  
 [Other] (specify): \_\_\_\_\_

12d. Can you tell me which direction the child safety seat was facing prior to the accident?

- ☐ Rear facing  
☐ Forward facing,  
☐ Other (specify): \_\_\_\_\_  
☐ Unknown

12e. Was a seat belt used to hold the child seat in place?

- ☐ No (If "No", go to question 12g)  
☐ Yes (If "Yes", go to question 12f)  
☐ Unknown

12f. Can you describe how the seat belt was secured to the child seat?

- ☐ Looped through designated rear framing struts?  
☐ Looped through arm rest slots?  
☐ Belt across safety shield?  
☐ Looped through rear frame outside the designated framing struts?  
☐ Other (specify): \_\_\_\_\_  
☐ Unknown

12g. What was the child safety seat equipped with at the time of purchase? (check all that apply)

- ☐ Harness  
☐ Shield  
☐ Tether strap

If any box is checked, ask questions 12h - 12i.

1. Primary Sampling Unit Number

10

3. Vehicle Number

01

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01

## VEHICLE/DRIVER DATA QUESTIONS (CONTINUED)

## OPTIONAL

If you do not know where the vehicle is or if the owner's permission is needed for inspection.

12h. Were any of these items added after you owned the child safety seat?

☐ Yes

(specify \_\_\_\_\_)

☐ No☐ Unknown

12i. Were any of these items used during the accident?

☐ Yes (If "Yes", check all that apply)☐ Harness☐ Shield☐ Tether strap☐ No☐ Unknown

15. Do you know where the vehicle is currently located?

16. May I take a look at your vehicle to assess the damage?

☐ No☐ Yes

## DRIVER ONLY

17. What race do you consider yourself?

☒ White☐ Black☐ American Indian, Eskimo or Aleut, Asian or Pacific Islander☐ Other (specify: \_\_\_\_\_)☐ Unknown.

18. Are you of hispanic origin?

☒ No☐ Yes

## CARGO WEIGHT AND MILEAGE

13. Was there any cargo in your vehicle?

☐ No (If "No", go to question 14)☒ Yes (If "Yes", go to question 13a)☐ Unknown

13a. Can you estimate the weight of the cargo?

20-30 lbs.

Cargo description

Golf clubs

14. Can you tell me the mileage on the vehicle?

UNK miles

1. Primary Sampling Unit Number 10 3. Vehicle Number 012. Case Number - Stratum 9411 4. Occupant Number 01

## VEHICLE ROLLOVER/FIRE QUESTIONS

## ROLLOVER QUESTIONS

1. Did the vehicle rollover during the accident?

☒ No (If "No", go to question 2.)☐ Yes☐ Unknown (skip to question 2)

1a. Describe where the rollover began.

☐ On roadway☐ On shoulder☐ On roadside or median☐ Unknown

1b. What caused the vehicle to rollover?

☐ Other vehicle (specify vehicle number): \_\_\_\_\_☐ Contacted object (specify): \_\_\_\_\_☐ Other cause (specify): \_\_\_\_\_☐ Unknown

1c. Describe which direction the vehicle rolled.

☐ Toward the right☐ Toward the left☐ End-over-end☐ Unknown

1d. Estimate the number of sides (including the top and bottom) which contacted the ground during the rollover?

☐ 1 side☐ 2 sides☐ 3 sides☐ 4 sides☐ Unknown

1e. Did the vehicle roll over more than one complete turn (more than 4 sides)?

☐ No (If "No", go to question 1g.)☐ Yes

1f. Estimate the number of complete turns.

☐ No☐ Yes (specify): \_\_\_\_\_☐ Unknown

1g. When the vehicle stopped rolling over, which side of the vehicle was in contact with the ground?

☐ Left side☐ Right side☐ Top☐ Wheels☐ Unknown

## FIRE QUESTIONS

2. Did the vehicle experience a fire?

☒ No (If "No", skip to Occupant Data Questions)☐ Yes☐ Unknown

2a. Describe where the fire started or where smoke was first seen.

☐ Under the hood☐ Behind the instrument panel☐ In the passenger compartment☐ In the trunk/cargo area☐ Under the vehicle☐ From other involved vehicle☐ Unknown

2b. Did the fire start with the electrical system?

☐ No☐ Yes (specify): \_\_\_\_\_☐ Unknown

2c. Did the fire start with the fuel system?

☐ No (If "No", skip to Occupant Data Questions)☐ Yes (go to question 2d)☐ Unknown

2d. Describe which part of the fuel system that may have been involved?

☐ No☐ Yes (specify): \_\_\_\_\_

\_\_\_\_ Fuel tank

\_\_\_\_ Fuel lines

\_\_\_\_ Engine compartment (specify component if known)

☐ Unknown

(Go To Occupant Data Questions)

## COMMENTS ON ROLLOVERS AND FIRES

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1. Primary Sampling Unit Number

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01

## OCCUPANT DATA QUESTIONS

1. Was there anyone else in your vehicle at the time of the accident?

- ☐ No (If "No", go to question 4)  
☐ Yes (If "Yes", specify number in question 2 below and then go to question 3)  
☐ Unknown

2. How many?

- (1) One other person  
 (2) Two other persons  
 (3) Three other persons  
 (4) Four other persons  
 (5) Five other persons  
 (6) Six other persons  
 (7) Seven or more other persons  
 (specify number:)

3. Where was this person sitting? (Circle seating positions)

- |      |      |      |
|------|------|------|
|      | (12) | (13) |
| (21) | (22) | (23) |
| (31) | (32) | (33) |
- ☐ Other (specify:)

## OCCUPANT CHARACTERISTICS

4. Can I have your (his/her) height, weight, age, and sex?

Height 5'9 Weight 135 Age 17  
 Sex: ☐ Male ☒ Female

## OCCUPANT POSTURE

5. Can you tell me how you (he/she was) were sitting in your vehicle?

sitting straight up.

5a. Can you describe the location of your (his/her) feet just prior to the collision?

UNKNOWN

5b. Can you describe the location of your (his/her) arms?

Left on steering wheel UNK Right Armrest?

5c. Was your (his/her) back resting against the seat back rest?

- ☐ No (If "No", describe the position)  
☒ Yes  
☐ Unknown

5d. Were you (Was he/she)

- ☒ Sitting upright or  
☐ Leaning to left side, or  
☐ Leaning to right side?

## OCCUPANT EJECTION

6. Were you (Was he/she) or any part of your (his/her) body thrown from the vehicle during the accident?

- ☒ No (If "No", go to question 7)  
☐ Yes (If "Yes", go to question 6a)  
☐ Unknown

6a. Can you remember out of what area of the vehicle you were (he/she was) thrown?

- ☐ No  
☐ Yes (Describe:)

## OCCUPANT RESTRAINT

7. Were you (Was he/she) wearing a seat belt just before the accident?

- ☒ No (If "No", go to question 8)  
☐ Yes  
☐ Unknown

7a. Were you (Was he/she) wearing the

- ☐ Lap belt?  
☐ Lap and Shoulder belt?  
☐ Shoulder belt?

7b. Can you describe how you were (he/she was) wearing the lap belt?

- ☐ Across the stomach  
☐ Low on lap  
☐ Other (specify:)  
☐ Unknown

7c. Can you describe how you were (he/she was) wearing the shoulder belt?

- ☐ Over the shoulder  
☐ Under the arm  
☐ Behind the back  
☐ Behind the seat  
☐ Other (specify:)

7d. Did any part of the belt system break or tear?

- ☐ No  
☐ Yes (If "Yes", describe)  
☐ Unknown

## OCCUPANT ENTRAPMENT

8. Were you (Was he/she) trapped in the vehicle?

- ☐ No  
☐ Yes (If "Yes", describe)

UNK  
☒ Unknown

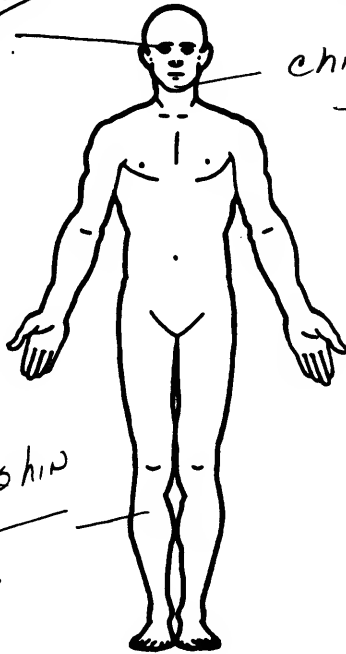
PSU Number 10 Case Number-Stratum 9411 Vehicle Number 01 Occupant Number 01

## INJURY DATA FROM INTERVIEWEE(S)

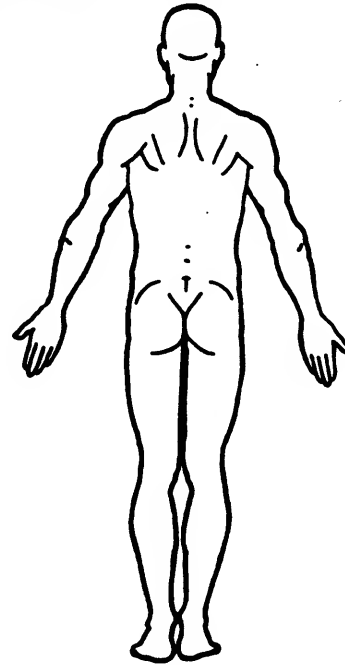
Indicate the Location, Lesion, Detail, and Source of all injuries. Specify interviewee(s): DRIVER

## SOFT TISSUE/INTERNAL INJURIES

Eye  
Black/Blue  
Glasses.

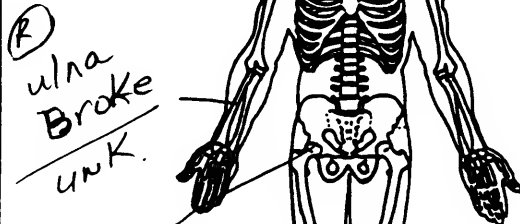


chin cut/scrape  
AIR BAG  
UNCONSCIOUS  
till next  
MORNING



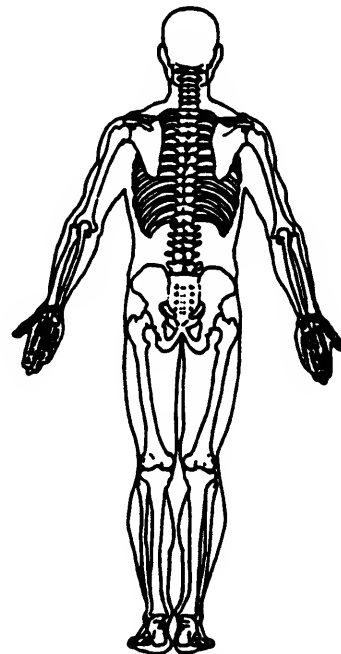
## SKELETAL INJURIES

MIDDLE 2 Ribs  
FX (R) SIDE  
DASH/steering?  
wheel?



(R) Hip  
dislocated  
DASH?

(R) Ankle  
Broke.  
UNK



The space provided on the back of this page may be used to document injuries noted by the interviewee(s).



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## OCCUPANT INJURY DATA QUESTIONS

1. Were you (Was he/she) injured?

☐ No (If "No", skip to question 7)☒ Yes (If "Yes", complete Occupant Injury Questions)☐ Unknown

2. Did you (he/she) receive any cuts, abrasions, or bruises?

☐ No (go to question 3)☒ Yes (If "Yes", record the exact location(s) and size on the manikin(s).)☐ Unknown

2a. Do you know what caused your (his/her) injury(s)?

☐ No☒ Yes (If "Yes", specify the component(s) or object(s) on the manikin(s).)☐ Unknown

3. Did you (he/she) experience any broken bones?

☐ No (If "No", go to question 4)☒ Yes (If "Yes", record the exact location(s) and type of fracture(s) on the manikin(s), and then go to question 3a.)☐ Unknown

3a. Do you know what caused the injury(s)?

☐ No☐ Yes (If "Yes", specify the component(s) or object(s) on the manikin(s).)☒ Unknown

4. Did you (he/she) injure your (his/her) head? (skull/brain?)

☐ No (If "No", go to question 5)☒ Yes (If "Yes", describe the type of injury(s) on the manikin(s), then go to question 4a.)☐ Unknown

4a. Do you know what caused the injury(s)?

☐ No☐ Yes (If "Yes", specify the component(s) on the manikin(s).)☒ Unknown

5. Were any of your (his/her) internal organs injured?

☒ No (If "No", go to question 6)☐ Yes (If "Yes", thoroughly describe the type of injury(s) and specify the internal organ(s) injured on the manikin(s), and then go to question 5a.)☐ Unknown

5a. Do you know what caused this injury?

☐ No☐ Yes (If "Yes", specify the component(s) on the manikin(s).)☐ Unknown

6. Did you (he/she) suffer any joint sprains or muscle strains?

☐ No (If "No", go to question 7)☐ Yes (If "Yes", specify on the manikin(s), and then go to question 6a.)☐ Unknown

6a. Do you know what caused the injury(s)?

☐ No☐ Yes (If "Yes", specify the component(s) on the manikin(s).)☐ Unknown

7. Did you (he/she) receive any treatment?

☐ No (If "No", go to question 8)☒ Yes (If "Yes", go to question 7a or return to question 2.)

7a. Were you (Was he/she) treated by (check all that apply):

☒ Hospital/trauma center? (specify hospital name):☐ Medical clinic☐ Out patient surgery? (specify medical facility):☐ Paramedics or first aid at the scene?☐ A doctor in his/her office?☐ Treated at home?☐ None of the above, go to question 8.

7b. Were you (Was he/she) treated and released from the emergency room?

☒ No (If "No", go to question 7c.)☐ Yes (If "Yes", go to question 7e.)

7c. Were you (Was he/she) hospitalized?

☐ No (If "No", give an explanation)☒ Yes (If "Yes", go to question 7d.)

7d. How many days were you (was he/she) in the hospital?

4 days got out 4th

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## OCCUPANT INJURY DATA QUESTIONS (CONTINUED)

7e. Have you (Has he/she) received any follow-up treatment?

☐ No☒ Yes (If "Yes", describe:)physical therapy☐ Unknown

7f. In order to achieve the best possible scientific data regarding your (his/her) injury(s), we need to obtain a copy of your (his/her) medical reports. Would you (he/she) sign a medical release form?

☐ No☒ Yes (If "Yes", mail or present the form for signature.)

8. Have you (he/she) lost any days from work or school (college)?

☐ No☐ Yes (If "Yes", determine the number of days lost) (Specify:)☐ Not working prior to the accident☐ UnknownWORKING PART TIME@

**Appendix F:**

**NASS CDS OCCUPANT ASSESSMENT FORM:**

**CASE VEHICLE DRIVER**



## OCCUPANT ASSESSMENT FORM

1. Primary Sampling Unit Number

2. Case Number - Stratum

3. Vehicle Number

4. Occupant Number

### OCCUPANT'S CHARACTERISTICS

5. Occupant's Age

Code actual age at time of accident.

(00) Less than one year old (specify by month):

(97) 97 years and older

(99) Unknown

6. Occupant's Sex

(1) Male

(2) Female

(9) Unknown

7. Occupant's Height

Code actual height to the nearest  
centimeter.

(999) Unknown

69 inches X 2.54 = 175 centimeters

8. Occupant's Weight

Code actual weight to the nearest  
kilogram.

(999) Unknown

135 pounds X .4536 = 61 kilograms

9. Occupant's Role

(1) Driver

(2) Passenger

(9) Unknown

### OCCUPANT'S SEATING

10. Occupant's Seat Position

*Front Seat*

(11) Left side

(12) Middle

(13) Right side

(14) Other (specify):

(15) On or in the lap of another occupant

*Second Seat*

(21) Left side

(22) Middle

(23) Right side

(24) Other (specify):

(25) On or in the lap of another occupant

*Third Seat*

(31) Left side

(32) Middle

(33) Right side

(34) Other (specify):

(35) On or in the lap of another occupant

*Fourth Seat*

(41) Left side

(42) Middle

(43) Right side

(44) Other (specify):

(45) On or in the lap of another occupant

(97) In or on unenclosed area

(98) Other seat (specify):

(99) Unknown

11. Occupant's Posture

(0) Normal posture

*Abnormal posture*

(1) Kneeling or standing on seat

(2) Lying on or across seat

(3) Kneeling, standing or sitting in front of seat

(4) Sitting sideways or turned to talk with another  
occupant or to look out a rear window

(5) Sitting on a console

(6) Lying back in a reclined seat position

(7) Bracing with feet or hands on a surface in front  
of seat

(8) Other abnormal posture (specify):

(9) Unknown

## EJECTION/ENTRAPMENT

12. Ejection 0

- (0) No ejection
- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, unknown degree
- (9) Unknown

13. Ejection Area 0

- (0) No ejection
- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear
- (7) Roof
- (8) Other area (e.g., back of pickup, etc.)  
(specify): \_\_\_\_\_
- (9) Unknown

14. Ejection Medium 0

- (0) No ejection
- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify): \_\_\_\_\_
- (5) Integral structure
- (8) Other medium (specify): \_\_\_\_\_
- (9) Unknown

15. Medium Status (Immediately Prior To Impact) 0

- (0) No ejection
- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

16. Entrapment 1

(NOTE: Entrapped means that part of the person was in the vehicle and mechanically restrained; jammed doors and immobilizing injuries by themselves are not sufficient to constitute entrapment.)

- (0) Not entrapped
- (1) Entrapped
- (9) Unknown

PER  
MEDICAL

## RESTRAINT SYSTEM EVALUATION

17. Manual (Active) Belt System Availability 0

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown

*Integral Belt Partially Destroyed*

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)

(8) Other belt (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

18. Manual (Active) Belt System Use 0 0

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify): \_\_\_\_\_

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used—type unknown
- (08) Other belt used (specify): \_\_\_\_\_
- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat—type unknown
- (18) Other belt used with child safety seat (specify): \_\_\_\_\_
- (99) Unknown if belt used

19. Proper Use of Manual (Active) Belts 0

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

*Belt Used Improperly*

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): \_\_\_\_\_

(8) Other improper use of manual belt system (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

20. Manual (Active) Belt Failure Modes During Accident 0

- (0) No manual belt used
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): \_\_\_\_\_

(6) Broken retractor \_\_\_\_\_

(7) Combination of above (specify): \_\_\_\_\_

(8) Other manual belt failure (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

21. Air Bag System Availability/Function 1

- (0) Not equipped/not available
- (1) Air bag

*Non-functional*

(2) Air bag disconnected (specify): \_\_\_\_\_

(3) Air bag not reinstalled \_\_\_\_\_

(9) Unknown \_\_\_\_\_

22. Air Bag System Deployment 1

- (0) Not equipped/not available
- (1) Air bag deployed during accident (as a result of impact)
- (2) Air bag deployed inadvertently just prior to accident
- (3) Air bag deployed, accident sequence undetermined
- (4) Nondeployed
- (5) Unknown if deployed
- (6) Air bag deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
- (9) Unknown

23. Are There Indications of Air Bag System Failure? 1

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

Note: See Variables 44 through 48 (Page 5) for Information on Automatic Belts

24. Police Reported Restraint Use 0

- (0) None used
- (1) Police did not indicate restraint use
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt used, type not specified
- (6) Child safety seat
- (7) Other or automatic restraint (specify): \_\_\_\_\_

(8) Restrained, type unknown \_\_\_\_\_

(9) Police indicated "unknown" \_\_\_\_\_

## HEAD RESTRAINT AND SEAT EVALUATION

25. Head Restraint Type/Damage by Occupant  
at This Occupant Position 3

- (0) No head restraints
- (1) Integral—no damage
- (2) Integral—damaged during accident
- (3) Adjustable—no damage
- (4) Adjustable—damaged during accident
- (5) Add-on—no damage
- (6) Add-on—damaged during accident
- (8) Other (specify): \_\_\_\_\_
- (9) Unknown

26. Seat Type (this Occupant Position) 06

- (00) Occupant not seated or no seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., column supported)
- (09) Other seat type (specify): \_\_\_\_\_
- (10) Box mounted seat (i.e., van type)
- (99) Unknown

27. Seat Performance (this Occupant Position) 1

- (0) Occupant not seated or no seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks or "seat back" failed (specify): \_\_\_\_\_
- (4) Seat track/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion (specify): \_\_\_\_\_
- (7) Combination of above (specify): \_\_\_\_\_
- (8) Other (specify): \_\_\_\_\_
- (9) Unknown

## CHILD SAFETY SEAT

28. Child Safety Seat Make/Model 000

(000) No child safety seat

Applicable codes are found in your NASS CDS  
Data Collection, Coding and Editing

(950) Built-in child safety seat

(997) Other make/model (specify):  
\_\_\_\_\_

(998) Unknown make/model

(999) Unknown if child safety seat used

29. Type of Child Safety Seat 0

(0) No child safety seat

(1) Infant seat

(2) Toddler seat

(3) Convertible seat

(4) Booster seat

(7) Other type child safety seat (specify):  
\_\_\_\_\_

(8) Unknown child safety seat type

(9) Unknown if child safety seat used

30. Child Safety Seat Orientation 00

(00) No child safety seat

*Designed for Rear Facing for This Age/Weight*

(01) Rear facing

(02) Forward facing

(08) Other orientation (specify):  
\_\_\_\_\_

(09) Unknown orientation

*Designed For Forward Facing for This Age/Weight*

(11) Rear facing

(12) Forward facing

(18) Other orientation (specify):  
\_\_\_\_\_

(19) Unknown orientation

*Unknown Design or Orientation For This  
Age/Weight, or Unknown Age/Weight*

(21) Rear facing

(22) Forward facing

(28) Other orientation (specify):  
\_\_\_\_\_

(29) Unknown orientation

(99) Unknown if child safety seat used

31. Child Safety Seat Harness Usage 0032. Child Safety Seat Shield Usage 0033. Child Safety Seat Tether Usage 00Note: Options below applicable to  
Variables OA31-OA33.

(00) No child safety seat

*Not Designed With Harness/Shield/Tether*(01) After market harness/shield/tether  
added, not used

(02) After market harness/shield/tether used

(03) Child safety seat used, but no after market  
harness/shield/tether added(09) Unknown if harness/shield/tether  
added or used*Designed With Harness/Shield/Tether*

(11) Harness/shield/tether not used

(12) Harness/shield/tether used

(19) Unknown if harness/shield/tether used

*Unknown If Designed With Harness/Shield/Tether*

(21) Harness/shield/tether not used

(22) Harness/shield/tether used

(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used



## INJURY CONSEQUENCES

34. Injury Severity (Police Rating) 3

- (0) O - No injury
- (1) C - Possible injury
- (2) B - Nonincapacitating injury
- (3) A - Incapacitating injury
- (4) K - Killed
- (5) U - Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

35. Treatment - Mortality 3

- (0) No treatment
- (1) Fatal
- (2) Fatal - ruled disease (specify):

*Nonfatal*

- (3) Hospitalization
- (4) Transported and released
- (5) Treatment at scene - nontransported
- (6) Treatment later
- (8) Treatment - other (specify):
- (9) Unknown

36. Type Of Medical Facility (for Initial Treatment) 1

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):
- (9) Unknown

37. Hospital Stay 05

- (00) Not Hospitalized
- 5 Code the number of days (up through 60) that the occupant stayed in hospital.
- (61) 61 days or more
- (99) Unknown

38. Working Days Lost 97

- Code the number of days (up through 60) that the occupant lost from work due to the accident
- (00) No working days lost
- (61) 61 days or more
- (62) Fatally injured
- (97) Not working prior to accident
- (99) Unknown

**STOP - GO TO VARIABLE 44 ON PAGE 7****VARIABLES 39 THROUGH 43 ARE COMPLETED BY THE ZONE CENTER**39. Time to Death 00

- Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)
- (00) Not fatal
- (96) Fatal - ruled disease
- (99) Unknown

40. 1st Medically Reported Cause of Death 0041. 2nd Medically Reported Cause of Death 0042. 3rd Medically Reported Cause of Death 00

- Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
- (00) Not fatal or no additional causes
- (96) Mode of death given but specific injuries are not linked to cause of death. (specify):

- (97) Other result (includes fatal ruled disease) (specify):

- (99) Unknown

43. Number of Recorded Injuries for This Occupant 11

- 11 Code the actual number of injuries recorded for this occupant.
- (00) No recorded injuries
- (97) Injured, details unknown
- (99) Unknown if injured

## AUTOMATIC BELT SYSTEM

44. Automatic (Passive) Belt System Availability/ Function 2

- (0) Not equipped/not available  
 (1) 2 point automatic belts  
 (2) 3 point automatic belts  
 (3) Automatic belts - type unknown

*Non-functional*

- (4) Automatic belts destroyed or rendered inoperative  
 (9) Unknown

45. Automatic (Passive) Belt System Use 2

- (0) Not equipped/not available/destroyed or rendered inoperative  
 (1) Automatic belt in use  
 (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify):  
 \_\_\_\_\_

- (3) Automatic belt use unknown  
 (9) Unknown

46. Automatic (Passive) Belt System Type 1

- (0) Not equipped/not available  
 (1) Non-motorized system  
 (2) Motorized system  
 (9) Unknown

47. Proper Use of Automatic (Passive) Belt System 0

- (0) Not equipped/not available/not used  
 (1) Automatic belt used properly  
 (2) Automatic belt used properly with child safety seat

*Automatic Belt Used Improperly*

- (3) Automatic shoulder belt worn under arm  
 (4) Automatic shoulder belt worn behind back  
 (5) Automatic belt worn around more than one person  
 (6) Lap portion of automatic belt worn on abdomen  
 (7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify):  
 \_\_\_\_\_

- (8) Other improper use of automatic belt system (specify):  
 \_\_\_\_\_  
 (9) Unknown

48. Automatic (Passive) Belt Failure Modes During Accident 0

- (0) Not equipped/not available/not in use  
 (1) No automatic belt failure(s)  
 (2) Torn webbing (stretched webbing not included)  
 (3) Broken buckle or latchplate  
 (4) Upper anchorage separated  
 (5) Other anchorage separated (specify):  
 \_\_\_\_\_  
 (6) Broken retractor  
 (7) Combination of above (specify):  
 (8) Other automatic belt failure (specify):  
 \_\_\_\_\_  
 (9) Unknown

49. Seat Orientation (this Occupant Position) 1

- (0) Occupant not seated or no seat  
 (1) Forward facing seat  
 (2) Rear facing seat  
 (3) Side facing seat (inward)  
 (4) Side facing seat (outward)  
 (8) Other (specify):  
 \_\_\_\_\_

- (9) Unknown

## Check the Primary Source Used In Determining Belt Use.

- [ ] Not equipped/not available/destroyed or rendered inoperative  
 [ ] Vehicle inspection  
 [ ] Official injury data  
 [ ] Driver/occupant interview  
 [ ] Other (specify):  
 \_\_\_\_\_

- [ ] Unknown if belt used  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

ARE ALL APPLICABLE MEDICAL RECORDS INCLUDED WITH INITIAL SUBMISSION?

NO [ ] YES [☒]

UPDATE CANDIDATE?

NO [☒] YES [ ]

**STOP - VARIABLES 50 THROUGH 53 ARE COMPLETED BY THE ZONE CENTER****TRAUMA DATA**

50. Glasgow Coma Scale (GCS) Score 15  
(at Medical Facility)  
(00) Not injured  
(01) Injured - not treated at medical facility  
(02) No GCS Score at medical facility  
(03-15) Code the actual value of the initial GCS Score recorded at medical facility.  
(97) Injured, details unknown  
(99) Unknown if injured

51. Was the Occupant Given Blood? 1  
(1) No - blood not given  
(2) Yes - blood given  
(specify units): \_\_\_\_\_  
(9) Unknown if blood given

52. Arterial Blood Gases (ABG) -  $\text{HCO}_3$  01  
(00) Not injured  
(01) Injured, ABGs not measured or reported  
(02-50) Code the actual value of the  $\text{HCO}_3$   
(96) ABGs reported,  $\text{HCO}_3$  unknown  
(97) Injured, details unknown  
(99) Unknown if injured

**BELT USE DETERMINATION**

53. Primary Source of Belt Use Determination 3

- (0) Not equipped/not available/destroyed or rendered inoperative  
(1) Vehicle inspection  
(2) Official injury data  
(3) Driver/occupant interview  
(8) Other (specify): \_\_\_\_\_  
(9) Unknown if belt used

**Appendix G:**

**NASS CDS OCCUPANT INJURY FORM:**

**CASE VEHICLE DRIVER**



U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

# OCCUPANT INJURY FORM

Form Approved  
O.M.B. No. 2127-0021  
NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number <u>10</u>	3. Vehicle Number <u>01</u>
2. Case Number - Stratum <u>9411</u>	4. Occupant Number <u>01</u>

## INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

Source of Injury Data	A.I.S. - 90						Injury Source	Injury Confidence Level	Direct/Indirect Injury	Occupant Area Intrusion Number		
	Body Region	Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity	Aspect						
Fx 9th rib ①	1st	5. <u>2</u>	6. <u>4</u>	7. <u>5</u>	8. <u>02</u>	9. <u>12</u>	10. <u>1</u>	11. <u>1</u>	12. <u>04</u>	13. <u>2</u>	14. <u>1</u>	15. <u>09</u>
Monteggia's Fx ② forearm/elbow	2nd	16. <u>2</u>	17. <u>7</u>	18. <u>5</u>	19. <u>32</u>	20. <u>02</u>	21. <u>2</u>	22. <u>1</u>	23. <u>09</u>	24. <u>1</u>	25. <u>1</u>	26. <u>10</u>
	3rd	27. <u>2</u>	28. <u>7</u>	29. <u>5</u>	30. <u>06</u>	31. <u>30</u>	32. <u>1</u>	33. <u>1</u>	34. <u>09</u>	35. <u>1</u>	36. <u>1</u>	37. <u>10</u>
Dislocation ③ hip	4th	38. <u>2</u>	39. <u>8</u>	40. <u>5</u>	41. <u>06</u>	42. <u>10</u>	43. <u>2</u>	44. <u>1</u>	45. <u>09</u>	46. <u>1</u>	47. <u>2</u>	48. <u>10</u>
Fx ④ Talus	5th	49. <u>2</u>	50. <u>8</u>	51. <u>5</u>	52. <u>32</u>	53. <u>00</u>	54. <u>2</u>	55. <u>1</u>	56. <u>56</u>	57. <u>1</u>	58. <u>1</u>	59. <u>06</u>
Abrasion chin	6th	60. <u>2</u>	61. <u>2</u>	62. <u>9</u>	63. <u>02</u>	64. <u>02</u>	65. <u>1</u>	66. <u>8</u>	67. <u>45</u>	68. <u>1</u>	69. <u>1</u>	70. <u>00</u>
Superficial lacerations chin	7th	71. <u>2</u>	72. <u>2</u>	73. <u>9</u>	74. <u>06</u>	75. <u>02</u>	76. <u>1</u>	77. <u>8</u>	78. <u>45</u>	79. <u>2</u>	80. <u>1</u>	81. <u>00</u>
Abrasions ⑤ lower leg	8th	82. <u>2</u>	83. <u>8</u>	84. <u>9</u>	85. <u>02</u>	86. <u>02</u>	87. <u>1</u>	88. <u>1</u>	89. <u>09</u>	90. <u>1</u>	91. <u>1</u>	92. <u>10</u>
Superficial lacerations ⑥ knee + shin	9th	93. <u>2</u>	94. <u>8</u>	95. <u>9</u>	96. <u>06</u>	97. <u>02</u>	98. <u>1</u>	99. <u>1</u>	100. <u>09</u>	101. <u>1</u>	102. <u>1</u>	103. <u>10</u>
Contusion ⑦ ankle	10th	104. <u>3</u>	105. <u>8</u>	106. <u>9</u>	107. <u>04</u>	108. <u>02</u>	109. <u>1</u>	110. <u>1</u>	111. <u>59</u>	112. <u>2</u>	113. <u>1</u>	114. <u>06</u>

[illegible]

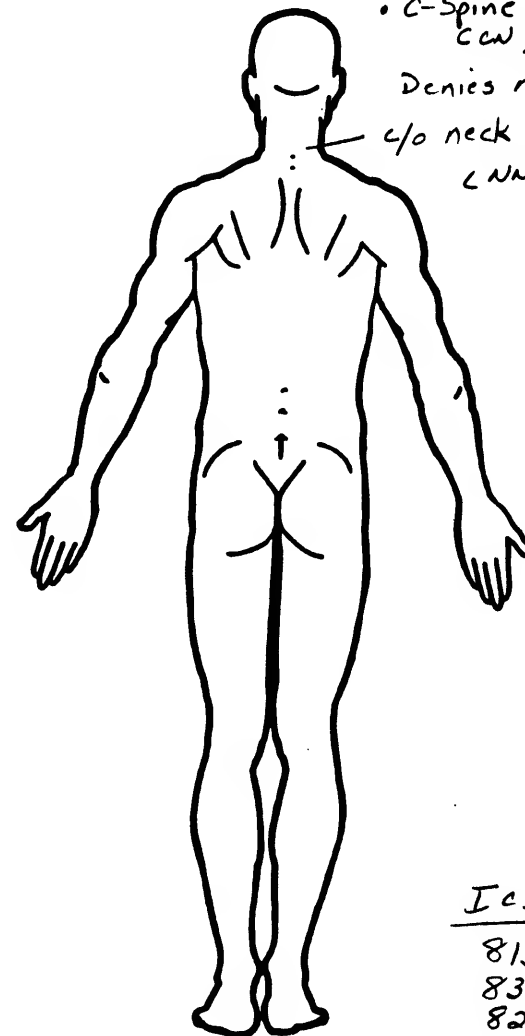
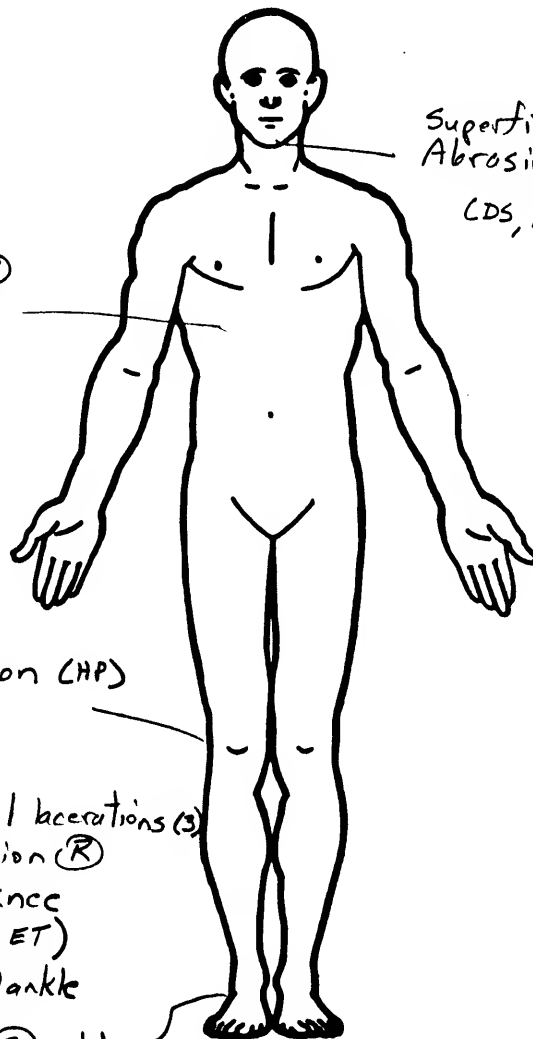
Contusion  
R eye 11th

OFFICIAL INJURY DATA — SOFT TISSUE INJURIES

Ⓡ foot caught under dash, this freed (ET)

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

CN = Orthopedics



ICD-9-CM

813.03	914.0
835.01	891.0
825.21	873.4
807.01	
910.0	

Smells ETOH  
(ER, HP, NN, ET)

## SOURCE OF INJURY DATA

### OFFICIAL

- (1) Autopsy records with or without hospital/medical records
- (2) Hospital/medical records other than emergency room (e.g., discharge summary)
- (3) Emergency room records only (including associated X-rays or other lab reports)
- (4) Private physician, walk-in or emergency clinic

### UNOFFICIAL

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify): \_\_\_\_\_
- (9) Police

## INJURY SOURCE

### FRONT

- (01) Windshield
- (02) Mirror
- (03) Sunvisor
- (04) Steering wheel rim
- (05) Steering wheel hub/spoke
- (06) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add on equipment (e.g., CB, tape deck, air conditioner)
- (09) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knees bolster
- (14) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (16) Driver side air bag compartment cover
- (17) Passenger side air bag compartment cover
- (18) Windshield reinforced by exterior object (specify): \_\_\_\_\_
- (19) Other front object (specify): \_\_\_\_\_

### LEFT SIDE

- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A (A1/A2)-pillar
- (23) Left B-pillar
- (24) Other left pillar (specify): \_\_\_\_\_

- (25) Left side window glass or frame
- (26) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (27) Other left side object (specify): \_\_\_\_\_

- (28) Left side window sill

### RIGHT SIDE

- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A (A1/A2)-pillar
- (33) Right B-pillar
- (34) Other right pillar (specify): \_\_\_\_\_

- (35) Right side window glass or frame
- (36) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (37) Other right side object (specify): \_\_\_\_\_

- (38) Right side window sill

### INTERIOR

- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar or door frame attachment point
- (43) Other restraint system component (specify): \_\_\_\_\_
- (44) Head restraint system
- (45) Air bag (use codes "16" and "17" for injuries sustained from air bag compartment covers)
- (46) Other occupants (specify): \_\_\_\_\_
- (47) Interior loose objects
- (48) Child safety seat (specify): \_\_\_\_\_
- (49) Other interior object (specify): \_\_\_\_\_

### ROOF

- (50) Front header
- (51) Rear header
- (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

### FLOOR

- (56) Floor (including toe pan)
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking brake

### REAR

- (60) Backlight (rear window)

- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify): \_\_\_\_\_

### EXTERIOR of OCCUPANT'S VEHICLE

- (66) Hood
- (68) Outside hardware (e.g., outside mirror, antenna)
- (67) Other exterior surface or tires (specify): \_\_\_\_\_
- (68) Unknown exterior objects

### EXTERIOR OF OTHER MOTOR VEHICLE

- (70) Front bumper
- (71) Hood edge
- (72) Other front of vehicle (specify): \_\_\_\_\_

- (73) Hood
- (74) Hood ornament
- (76) Windshield, roof rail, A-pillar
- (76) Side surface
- (77) Side mirrors
- (78) Other side protrusions (specify): \_\_\_\_\_

- (79) Rear surface
- (80) Undercarriage
- (81) Tires and wheels
- (82) Other exterior of other motor vehicle (specify): \_\_\_\_\_

- (83) Unknown exterior of other motor vehicle

### OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT

- (84) Ground
- (85) Other vehicle or object (specify): \_\_\_\_\_
- (86) Unknown vehicle or object

### NONCONTACT INJURY

- (90) Fire in vehicle
- (91) Flying glass
- (92) Other noncontact injury source (specify): \_\_\_\_\_
- (93) Air bag exhaust gases
- (97) Injured, unknown source

## INJURY SOURCE CONFIDENCE LEVEL

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

## DIRECT/INDIRECT INJURY

- (1) Direct contact injury
- (2) Indirect contact injury
- (3) Noncontact injury
- (7) Injured, unknown source

## OCCUPANT INJURY CLASSIFICATION

### Body Region

- (1) Head
- (2) Face
- (3) Neck
- (4) Thorax
- (5) Abdomen
- (6) Spine
- (7) Upper Extremity
- (8) Lower Extremity
- (9) Unspecified

### Type of Anatomic Structure

- (1) Whole Area
- (2) Vessels
- (3) Nerves
- (4) Organs (includes muscles/ligaments)
- (5) Skeletal (includes joints)
- (6) Head - LOC
- (9) Skin

### Specific Anatomic Structure

- Whole Area
- (02) Skin - Abrasion
- (04) Skin - Contusion
- (06) Skin - Laceration
- (08) Skin - Avulsion
- (10) Amputation
- (20) Burn
- (30) Crush
- (40) Degloving
- (50) Injury - NFS
- (90) Trauma, other than mechanical

### Head - LOC

- (02) Length of LOC
- (04, 06, 08) Level of Consciousness
- (10) Concussion

### Spine

- (02) Cervical
- (04) Thoracic
- (06) Lumbar

Vessels, Nerves, Organs, Bones, Joints are assigned consecutive two digit numbers beginning with 02.

### Level of Injury

Specific injuries are assigned consecutive two-digit numbers beginning with 02.

To the extent possible, within the organizational framework of the AIS, 00 is assigned to an injury NFS as to severity or where only one injury is given in the dictionary for that anatomic structure. 99 is assigned to any injury NFS as to lesion or severity.

### Abbreviated Injury Scale

- (1) Minor injury
- (2) Moderate injury
- (3) Serious injury
- (4) Severe injury
- (5) Critical injury
- (6) Maximum (untreatable)
- (7) Injured, unknown severity

### Aspect

- (1) Right
- (2) Left
- (3) Bilateral
- (4) Central
- (5) Anterior
- (6) Posterior
- (7) Superior
- (8) Inferior
- (9) Unknown
- (0) Whole region



# OFFICIAL INJURY DATA — SKELETAL INJURIES

Restrained?

☒ No

☐ Yes

(EN, HP, ET)

Blood Alcohol  
Level (mg/dl)

BAL = 141

(ER, HP)

Glasgow Coma  
Scale Score

GCSS = 14/15 Nondisplaced

(LET / CN) Fx @ 9th  
rib

Units of Blood  
Given

(DS, PX)

Units =

Arterial Blood  
Gases

pH =

PO<sub>2</sub> =

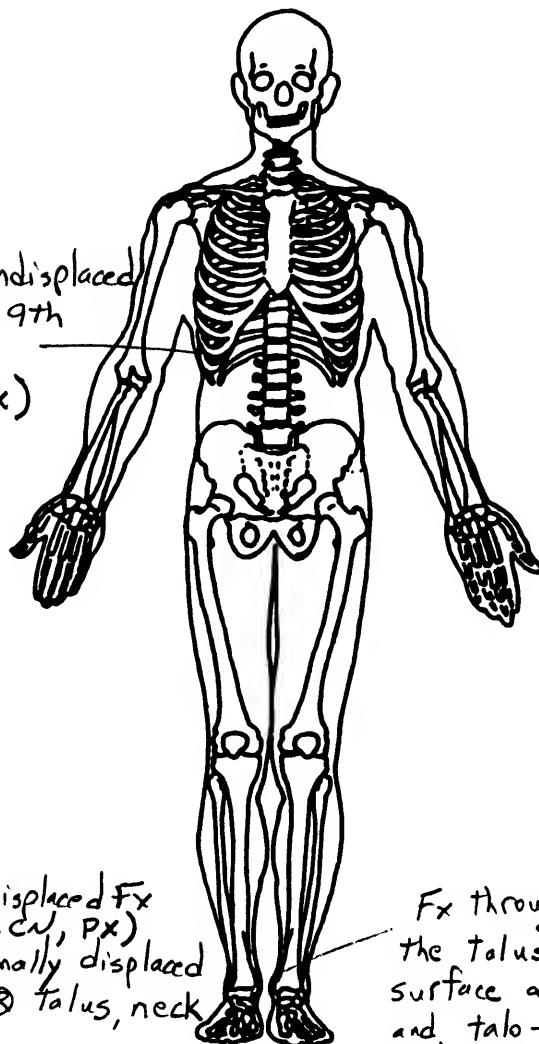
PCO<sub>2</sub> =

HCO<sub>3</sub> =

Unrestrained driver (EN, HP, CN)

Air Bag Deployed (HP, NN, ET, CN)

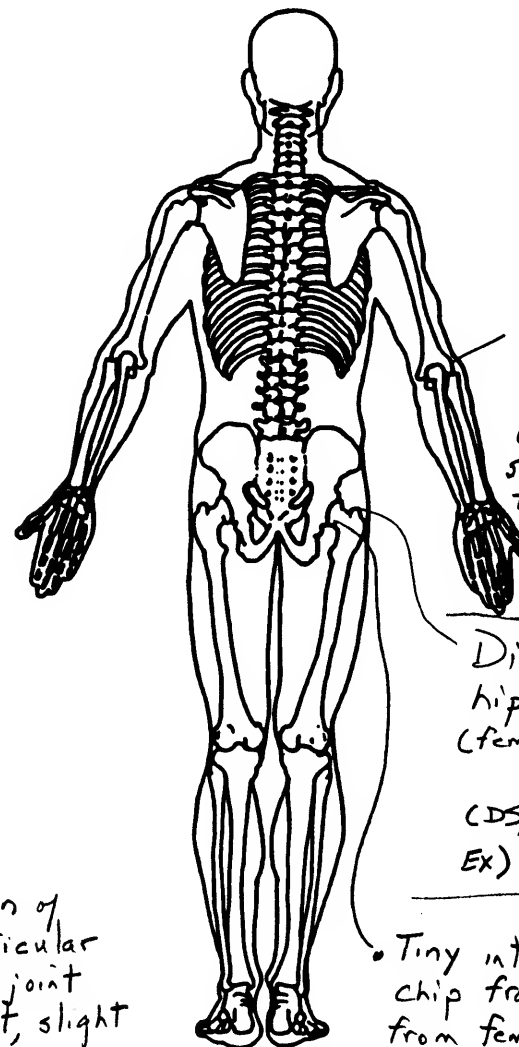
Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)



- Nondisplaced Fx (HP, CN, PX)
- Minimally displaced Fx @ talus, neck

(DS, FS, ER)

Fx through mid portion of the talus involving articular surface at tibio-talar joint and talo-calcaneal joint, slight flattening of talar dome (EX)



Monteggia's fracture @ elbow/forearm (Type III) with small comminution to ulna (DS, FS, ER, HP, CN, CN, OS, EX, PX)

Dislocated @ hip, posteriorly (femoral head)

(DS, FS, ER, CN, OS, EX)

- Tiny intra-articular chip fracture (most likely from femoral head) @ hip (EX)

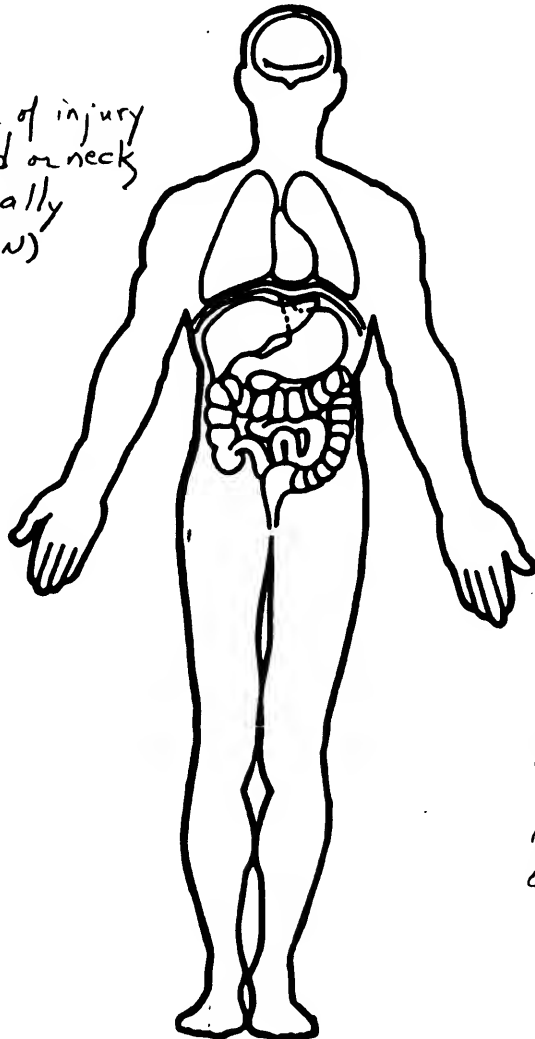
# OFFICIAL INJURY DATA — INTERNAL INJURIES

Alert + oriented, anxious (ER)

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

- Remembers incident, denies LOC (CN)

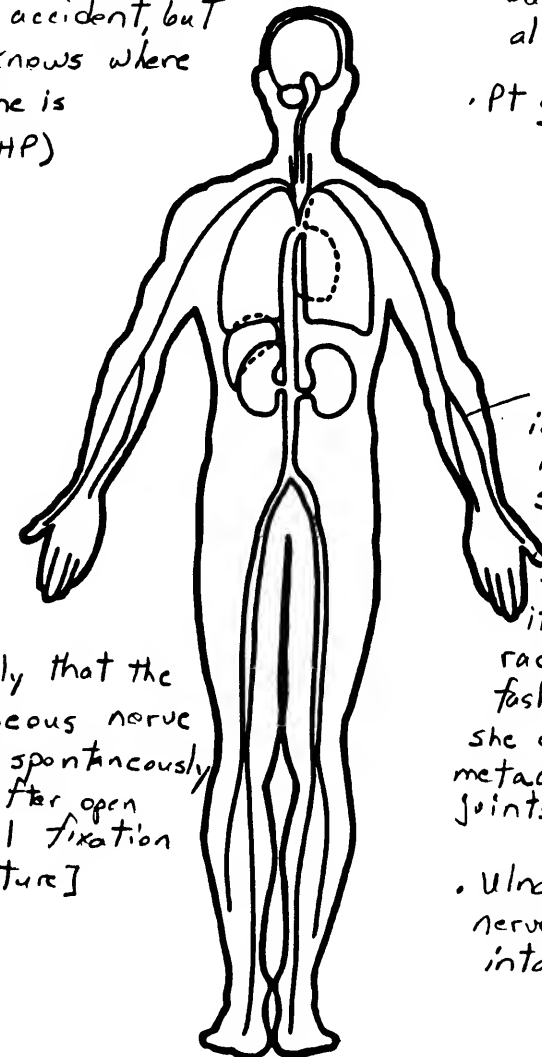
• No evidence of injury to her head or neck, neurologically intact (CN)



- Awake + alert (HP)
- Confused about accident, but knows where she is (HP)

• Pt conscious but not alert (ET)

• Pt groggy (CN)



Posterior interosseous nerve lesion. She is able to weakly extend the wrist; however it extends in a radially deviated fashion. However, she cannot extend the metacarpophalangeal joints (CN)

• Ulnar + median nerves are intact (CN)

Extremely likely that the posterior interosseous nerve involvement will spontaneously correct itself [after open reduction + internal fixation of Monteggia fracture] (CN)

# EMERGENCY DEPARTMENT RECORD

Hospital

FINAL DIAGNOSIS/PROCEDURE  
ATTESTATION REPORT

## ADDRESSOGRAPH

discharge date / time [redacted] 94	admission date [redacted] 94	birth date [redacted]	social security number [redacted]	medical record # [redacted]
attending physician [redacted]	admitting / referring / consulting physician(s) [redacted]		surgeon / anesthesiologist [redacted]	
ADMITTING DIAGNOSIS				ICD-9-CM CODE
PRINCIPAL DIAGNOSIS				
Monteggia Fracture, R. Elbow				813.03
Additional Diagnoses				
Posterior Dislocation Rt. Hip				835.01
Thigh tract infection, post op				997.5
Right Talus fracture				599.0
in situ rib, right				825.21
Superficial laceration				807.01
4 lacerations, Chin & Rt. Leg				910.0
				916.0
				891.0
				873.44
PRINCIPAL PROCEDURE				Dr. #/date/anes.
Open Reduction & Internal Fixation, R. Elbow (Radius-Ulna)				79.72
Reduction of R. Hip				79.75
Examination of Hip under Anesthesia				79.39
Plaster Short Leg Cast				93.53
Reduction of Rib Fracture				86.35

I certify that the narrative descriptions of the principal and secondary diagnoses and the major procedures performed are accurate and complete to the best of my knowledge.

\_\_\_\_\_  
PHYSICIAN SIGNATURE\_\_\_\_\_  
DATE

Copy Distribution: Original - Medical Records      Yellow - Attending Physician  
Pink/Additional - Admitting, Referring, Consulting Physician(s).  
Surgeon, Anesthesiologist

HOSPITAL  
INPATIENT ADMISSION FACESHEET

ADM#: [REDACTED] ROOM#: [REDACTED] ADM TYPE: I/P ER SEMI-PRIVATE ROOM MR#: [REDACTED]  
PATIENT: [REDACTED] SEX: F SS#: [REDACTED]  
PERM. ADD: [REDACTED] DR [REDACTED] DOB: [REDACTED] AGE: 17Y M/S: SINGLE  
LOCAL ADD: [REDACTED] DR [REDACTED] IN [REDACTED]  
PATIENT EMP/WORK PH: MINOR  
ADMITTED: [REDACTED] 94 08:56 BY: [REDACTED] SERV: [REDACTED] ORTHOPEDICS  
ADVANCED HEALTH CARE DIRECTIVES: UNKNOWN ADM. SOURCE: [REDACTED] HOSP - EMERGENCY  
\*\*\*\*\*  
GUARANTOR REL. TO PAT: FATHER P/C: [REDACTED]  
[REDACTED] OR [REDACTED] SS#: [REDACTED]  
[REDACTED] IN [REDACTED]  
EMPLOYER: [REDACTED] OCC.: [REDACTED]  
0  
\*\*\*\*\*  
RELATIVE REL. TO PAT: NOT ON FILE  
0  
\*\*\*\*\*  
00000  
\*\*\*\*\*  
INSURANCE: [REDACTED] PLAN: 1  
POL#: [REDACTED] GROUP#: [REDACTED] NAME: [REDACTED]  
PRE-INS AUTH: [REDACTED] \*\*VERIFY\*\*  
SUBSCRIBER: [REDACTED] REL. TO PAT: FATHER  
EMPLOYER: [REDACTED] OCC.: [REDACTED]  
COMMENTS: NO CARD / NO ONE AT ADMITTING  
\*\*\*\*\*

ORIGINAL FACESHEET  
DO NOT REMOVE  
FROM CHART

PREV ADM/A.K.A.:  
DIAGNOSES:

DISLOCATED RT HIP W REDUCTION  
MONTEGA TYPE 2 FX R FOREARM  
FX RT TALUS MVA

PHYSICIANS:

, M.D.

RFL: NO ADMISSION INTERVIEW RACE: WHT

Discharge Date: [REDACTED]  
Discharge Time: 1539  
Discharge Disposition: -

HOSPITAL

, INDIANA

PATIENT: [REDACTED]  
URN: [REDACTED]

PHYSICIAN: [REDACTED] M.D.  
ADM. DATE: [REDACTED] 93  
DIS. DATE: [REDACTED] 94

The patient had several fractures in an accident. The patient the morning of her admission underwent open reduction, and internal fixation of a Monteggia's fracture of the elbow. The patient furthermore at this time was noted to have a minimally displaced fracture of the talar neck/body and a posterior hip dislocation. The patient had a CT scan which revealed a very small piece of intra-articular loose body. However, her range of motion was normal in the hip without any pain whatsoever and there were certainly no instability of the hip. The patient was placed into a cast for her talar fracture. She was placed into a splint for the time being for her operated elbow and was given range of motion exercises for her hip. She is to do these exercises and to be nonweightbearing strictly on the leg and to begin range of motion exercises as an outpatient on the elbow. We will see her in the future. There were no complications with the surgery and the patient tolerated her stay in the hospital well.

\_\_\_\_\_  
, M.D.

DD: [REDACTED] /94  
DT: [REDACTED] /94

CC:

\_\_\_\_\_  
DISCHARGE SUMMARY

HOSPITAL

, INDIANA

PATIENT: [REDACTED]  
URN: [REDACTED]  
BED: [REDACTED]

PHYSICIAN: [REDACTED], M.D.  
ADM. DATE: [REDACTED] 93

The patient is a 17 year old female who was out drinking this evening and was an unrestrained motorist in a car accident where the car hit a tree. She did not have a seat belt on, however she did have an air bag that inflated. The patient was groggy and the history was obtained from the parents.

The patient was seen by [REDACTED] in the emergency room where a posterior dislocation of the right hip was identified and sedation was given by [REDACTED] and the hip was reduced. However, at the same time the patient was noted to have a Monteggia fracture of the right forearm and a nondisplaced fracture of the talus of the right foot. The patient also was complaining of a mild amount of right sided chest pain.

The patient does drink a fair amount at this time. She is otherwise healthy. She takes no medicines. She has no known drug allergies. She has never had surgery before. She lives at home with her parents.

**PHYSICAL EXAMINATION:** The patient's vital signs are stable. She is afebrile. She has had sedation by [REDACTED] so testing of her cranial nerves is difficult. There is no evidence of injury to her head or neck. There is no tenderness about her cervical spine. The patient has a tenderness about the right elbow. She is neurologically intact. She was noted at this time to have a posterior interosseous nerve lesion. She is able to weakly extend the wrist, however it extends in a radially deviated fashion. However, she cannot extend the metacarpophalangeal joints. The patient's ulnar and median nerves, however, are intact. The patient also has a good range of motion of the right hip and there is no evidence of any incongruity of the hip. The patient has a swelling about her foot as well, however her foot is neurovascularly intact.

X-rays are consistent with these things. She has a type III Monteggia fracture dislocation of the right forearm, a nondisplaced fracture of the talar head/neck, and a posterior hip dislocation without any evidence of hip or acetabular fracture.

The patient, her parents and I discussed these problems at length - the problems with avascular necrosis of the hip and of the talus were discussed. In addition, the patient's parents were told that surgery would be necessary in order to plate the ulnar fracture and this Monteggia lesion. The patient was given a gentle attempt at closed reduction of the radial head, with her partially sedated by [REDACTED] for the hip dislocation, however this was not successful. As operating time is now available, rather than continuing with this, we will plate the fracture in the operating room and reduce the radial head at that time.

HISTORY AND PHYSICAL EXAMINATION

HOSPITAL

, INDIANA

PATIENT: [REDACTED]  
URN: [REDACTED]  
BED: [REDACTED]

PHYSICIAN: [REDACTED] M.D.  
ADM. DATE: [REDACTED] 93

The parents were told that it is extremely likely that the posterior interosseous nerve involvement will spontaneously correct itself. In addition, they were told that we will evaluate the hip under anesthesia and cast the talus. They understand the risks and limitations of all the surgery. Limitations they were told include risk of infection, risk of neurovascular injury, risk of malunion, nonunion, need for subsequent hardware removal, and the anesthesia risks. We will proceed.

\_\_\_\_\_  
, M.D.

DD: [REDACTED] 94  
DT: [REDACTED] 94

HISTORY AND PHYSICAL EXAMINATION



X-ray No.

DOB

DR: , M.D.

HISTORY: Injury.

#### AP PELVIS

There is a posterior dislocation of the right femoral head. No definite associated chip fractures can be identified. Elsewhere the pelvis appears to be intact.

#### CROSS TABLE LATERAL LUMBAR SPINE

Normal. Vertebral body height and alignment is unremarkable and the disc spaces are reasonably well preserved.

#### TWO VIEW RIGHT FOREARM

There is a prominently angulated fracture involving the proximal shaft of the ulna. An associated dislocation of the radial head is apparent. Elsewhere the forearm appears to be intact.

IMPRESSION: Monteggia fracture as described.

#### REPEAT AP RIGHT HIP

The previously described dislocation of the right femoral head has been reduced and normal articular relationships have been re-established at the right hip joint.

#### THREE VIEW RIGHT ANKLE

There is a fracture through the mid portion of the talus which involves the articular surface at the tibio-talar joint and the articular surface at the talo-calcaneal joint as well. Slight flattening of the talar dome is apparent. The right ankle otherwise appears to be intact.

#### CT SCAN PELVIS & HIPS

5 mm sections were obtained at 5 mm intervals through the hip joint spaces. There is a tiny ossific density measuring approximately 1 x 2 mm adjacent to the medial aspect of the mid femoral head roughly in the mid portion of the hip joint space which appears to represent a tiny chip fracture. The exact origin of the chip fracture is not apparent, however the acetabular lips appear to be intact suggesting that this may well have arisen from the femoral head. There is some obliteration of the fat planes central to the right gluteal musculature incident to the aforementioned posterior dislocation. The scans of the pelvis and hips are otherwise unremarkable.

IMPRESSION: Findings consistent with tiny intra-articular chip fracture of the right hip as described.

#### PORTABLE CHEST

The heart and mediastinum appear normal for an AP projection with slight leftward rotation. Inspiratory effort is limited, however no focal areas of consolidation are identified and no pleural fluid is suggested.

IMPRESSION: Low lung volumes.

, M.D.

D: /94  
T: /94

X-ray No.  
DOB  
DR:

RIGHT ELBOW:

HISTORY: Trauma.

FINDINGS: Digital spot images of the proximal right forearm were obtained. A surgical plate has been placed to fixate the proximal shaft ulnar fracture. The fracture fragments appear in general anatomic alignment. A small fracture fragment is seen adjacent to the fracture line. The screws and plate appear to be intact. The visualized articular joint surfaces appear aligned.

SINGLE VIEW OF CHEST:

The lungs are poorly expanded, the costophrenic recesses are clear. The cardiac silhouette is normal in size. No abnormal focal opacities are seen within the lung fields to suggest contusion. There are no previous films available at this time for comparison.

IMPRESSION:

No acute intrathoracic process seen.

RIGHT SIDED RIB:

A nondisplaced right sided anterolateral right 9th rib fracture is suggested. No other fractures are seen. There is no evidence for pneumothorax or hemothorax.

IMPRESSION:

Nondisplaced right sided 9th rib fracture.

, M.D

D: [REDACTED] /94  
T: [REDACTED] /94

[REDACTED] /94

X-ray No.  
DOB  
DR:

HISTORY: Injury.

3 VIEW RIGHT FOOT:

Compared to [REDACTED] /94, the fracture of the talus has been secured within a fiberglass cast. No apparent change in position or alignment of the principal talar fracture fragments can be identified.

2 VIEW RIGHT ELBOW:

The proximal ulnar fracture has been secured in excellent position and alignment with a sideplate and several fixation screws. The radial head now articulates normally with the capitulum. The elbow has been secured within a fiberglass cast.

, M.D.

D: [REDACTED] /94  
T: [REDACTED] /94

HOSPITAL

, INDIANA

PATIENT: [REDACTED]  
URN: [REDACTED]  
ANESTHETIST:

DATE: [REDACTED] 94  
SURGEON: [REDACTED], M.D.  
ASSISTANT: [REDACTED], M.D.

**PREOPERATIVE DIAGNOSIS:**

1) Monteggia fracture of the right elbow. 2) Posterior dislocated right hip. 3) Fracture of the talor neck.

**POSTOPERATIVE DIAGNOSIS:**

Same.

**OPERATION PERFORMED:**

1) Open reduction, internal fixation of right Monteggia fracture 2) Evaluation of right hip under anesthesia. 3) Casting of talor neck fracture.

The patient, the parents, and [REDACTED] (who was the assistant) all discussed this fracture preoperatively. The parents were told that the nerve palsy that the patient has will not be explored due to the fact that this has a very high likelihood of complete resolution spontaneously. They were told, however, that we would evaluate the hip for free and easy range of motion under anesthesia and in addition for stability under anesthesia. In addition, the talus could be casted and the surgery on the elbow would be performed to plate the ulna and do a closed reduction of the radial head. All risks, limitations, complications, and methods were discussed preoperatively. The risks told to the parents included, but were not limited, the risk of infection, the risk of neurovascular injury, the risk of malunion, nonunion, and difficulty with the plate postoperatively, and the possibility for subsequent surgery. The parents understood all of this and wished to proceed with surgery.

Therefore, the patient was taken to the operating room on [REDACTED] 94. The patient's right upper extremity was prepped and draped in a sterile manner in the usual fashion. C-arm was brought in, tourniquet was applied at 250 mmHg. and an 8 cm. long incision was made overlying the ulna with the center of the incision at the level of the fracture. The plane between the extensor and flexor carpi ulnaris was identified and the fracture was then identified at this level and the knife was used to incise the periosteum along the subcutaneous border of the ulna. Then the periosteum was elevated off in order to expose the bone on either side of the fracture.

At this time, an extension of the elbow was performed. With a little bit of supination and pronation, a very gentle and easy reduction of the radial head occurred. This was seen on the C-arm images to be a complete reduction.

At this time, it was then fairly easy to anatomically reduce the ulna. There was some plastic deformity noted at the ulnar fracture site making it impossible to reduce the entire length of the fracture anatomically due to this plastic deformity and a small amount of comminution was identified as well. However, this reduction was held with the clamp and once again the C-arm was brought in. The AP, lateral, and obliques were identified to make certain that the radial head was once again reduced and it was, and to also be certain that the fracture was correctly held by the plate. This also was found to be acceptable. The plate was

OPERATIVE REPORT

HOSPITAL

, INDIANA

PATIENT: [REDACTED]  
URN: [REDACTED]  
ANESTHETIST: [REDACTED]

DATE: [REDACTED] 94  
SURGEON: [REDACTED] M.D.  
ASSISTANT: [REDACTED] M.D.

selected with a 6-0 3.5 DC plate and one screw was placed on one side of the fracture in neutral and then a compression screw was placed across the fracture on the other side giving us good compression of the fracture. Then, the rest of the screws were drilled, depth gauged, and tapped in a standard fashion in order to place them.

Once again, the patient had an x-ray obtained with the C-arm at this time and this showed anatomic reduction of the ulna underlying the plate and also reduction of the radial head.

The wound was then irrigated with copious normal saline. The fascia was closed with 00 Vicryl in order to approximate it. The subcutaneous tissues were then closed and the skin was then closed with a 4-0 Vicryl stitch. The tourniquet was then let down. Tourniquet time for the case was one hour.

At this time, the talus was evaluated by C-arm and found to be anatomically reduced and the cast was applied to this. The hip then had a range of motion examination performed. Range of motion of the hip was normal. There was no grinding or feeling of loose body in the hip. In addition to this, the hip was stable at 100 degrees of flexion. There was no evidence of desire to dislocate.

The patient was sent to the recovery room in excellent condition. There were no complications.

\_\_\_\_\_  
, M.D.

DD: [REDACTED] 94  
DT: [REDACTED] 94

CC:

OPERATIVE REPORT

PT:  
URN:

PHYSICIAN: [REDACTED]  
DATE: [REDACTED] 94

, M.D.

Page 1

CHIEF COMPLAINT: 17-year-old female with chief complaint of motor vehicle accident.

HISTORY OF PRESENT ILLNESS: Patient was the unrestrained driver in a motor vehicle accident. She slid off the road and hit several trees. Apparently the airbag deployed. On arrival here, her complaint was only of right hip and right arm pain. She denies any chest or abdominal pain.

PHYSICAL EXAMINATION: T 98.1, P 84, R 24, BP 123/67. She is awake and alert. She smells of alcohol. She is somewhat confused about the events of the accident; however, she knows where she is. She denies neck, chest, or abdominal pain. HEENT exam reveals no signs of head or facial trauma. PERRL. EOMI. Throat is clear. Neck is supple and nontender. Chest wall is nontender. Lungs are clear. Clavicles are nontender. Left upper extremity is without signs of bony tenderness. There is full range of motion of all joints. Right upper extremity reveals a deformity of the proximal forearm. Shoulders are nontender. Hand and wrist are nontender. She has good sensory and capillary refill of all her fingers. She is unwilling or unable to extend her wrist and her fingers but is able to wiggle her fingers. Abdomen is soft and nontender throughout. It is scaphoid. Pelvis is tender over the right hemi-pelvis. Back is not specifically tender. Right leg is held in flexion and internal rotation at the hip. There are abrasions and superficial lacerations over the shin and knee. The knee is without effusion. There is swelling around the right ankle joint. Neurovascular is intact distally. Distal foot is nontender. The left lower extremity reveals good range of motion of the hip and knee. Ankle and foot are nontender. Neurovascular is intact.

DIAGNOSTIC EVALUATION AND TREATMENT: Due to the obvious posterior hip dislocation on the right, portable AP pelvis and cross-table lateral of the lumbar were obtained. Cross-table lateral lumbar was negative. AP pelvis showed a right posterior hip dislocation. Her blood alcohol was 141. CBC revealed white count 10,300 and hemoglobin 11.7. Further x-rays were of the right ankle and right forearm. Right ankle x-rays revealed a nondisplaced talus fracture. Right forearm x-rays showed a Monteggia's type III fracture of the right forearm. After initial x-rays, I spoke with Dr. [REDACTED], on call for orthopedics. He suggested that I try to relocate the hip. He said that he will come in and take over her care. She was given a total of 3 mg of Versed. (She had been given several

CONTINUED

EMERGENCY PHYSICIAN REPORT

HOSPITAL,

, INDIANA

PT:  
URN:

PHYSICIAN:  
DATE: 94

, M.D.

Page 2

milligrams of morphine for pain prior). With this Versed, she developed good sedation without hypoxia with continuous oximetry monitoring. With gentle pressure down on the pelvis and hip at 90 degrees, I was able to reduce the hip dislocation without difficulty. [REDACTED] arrived and attempted to reduce the Monteggia fracture to reduce the radial head; this was unsuccessful. Her vital signs remained stable throughout her emergency department course. Her last set of vital signs revealed BP 124/54, P 96, and R 16 and unlabored. Her right chin abrasions and superficial lacerations were superficially debrided by myself. Sterile dressings were applied. Steri-Strips were applied to several superficial lacerations. [REDACTED] arranged to take her to surgery for plating of her ulna, reduction of her radial head, and manipulation of her right hip.

---

, M.D.

D- 94 06:09  
T- 94 06:55/052

## EMERGENCY CARE SHEET

PAGE 1

TRIAGE LEVEL: I II III

PATIENT LOCATION:

TX ROOM

REGISTRATION AREA

PATIENT NAME: [REDACTED] DATE: TIME:

## MODE OF ARRIVAL:

## ACCOMPANIED BY:

## TREATMENT ON ARRIVAL:

☐ AMBULATORY ☐ CRUTCHES☐ SELF☐ NONE☐ DRESSING☐ W/C ☐ OTHER☐ FAMILY☐ C-COLLAR☐ SPLINT; N/V INTACT? Y N☐ AMBULANCE #☐ OTHER☐ BACKBOARD☐ OTHER

## CHIEF COMPLAINT:

## TRIAGE NURSE SIGNATURE:

\* \* \* \* \*

TIME IN ROOM: ROOM #: SIGNATURE:

ALLERGIES: PMH: LMP: LTd:

MEDICATIONS: WEIGHT:

TIME T B/P P R PUPILS MONITOR

NOTES

Signature  
and Title

0340

Pt. hit several times, airbag activated. Remembers incident  
Denies KO. % pain @  
forearm, neck, @ hip,  
@ ↓ leg, @ ankle. @ 2  
pedal pulses. Swelling-  
bruising noted to @ ankle  
Splinted 2 blankets.  
@ forearm swollen distal  
to elbow, @ radial pulse  
Several small lacerations to  
@ ↓ leg. Strong odor of  
ETOH. Abd soft, non-tender  
to palp. @ bowel sounds x4.  
Lungs clear bilat. Pelvis stable

EMERGENCY CARE SHEET

REGISTRATION AREA

TIME:

TREATMENT ON ARRIVAL:

☐ OTHER

✱   ✱   ✱   ✱   ✱   ✱   ✱   ✱   ✱   ✱   ✱   ✱   ✱   ✱   ✱   ✱

SIGNATURE:

LTd:

WEIGHT:

Signature  
and Title

# EMERGENCY CARE SHEET



## EMERGENCY CARE SHEET PAGE

TRIAGE LEVEL: I II III      PATIENT LOCATION:      TX ROOM      REGISTRATION AREA

PATIENT NAME: [REDACTED]      DATE:      TIME:

MODE OF ARRIVAL:      ACCOMPANIED BY:      TREATMENT ON ARRIVAL:

☐ AMBULATORY    ☐ CRUTCHES    ☐ SELF    ☐ NONE    ☐ DRESSING  
☐ W/C    ☐ OTHER    ☐ FAMILY    ☐ C-COLLAR    ☐ SPLINT; N/V INTACT?    Y    N  
☐ AMBULANCE #    ☐ OTHER    ☐ BACKBOARD    ☐ OTHER

CHIEF COMPLAINT:

TRIAGE NURSE SIGNATURE:

\* \* \* \* \*

TIME IN ROOM:      ROOM #:      SIGNATURE:

ALLERGIES:      PMH:      LMP:      LTd:

MEDICATIONS:      WEIGHT:

TIME T B/P P R PUPILS MONITOR      NOTES      Signature and Title

0515	118/58	98	16				RA bony 99%. Pt sleepy.	
							Rouses to voice. Resp em	
							- unlabored. ② leg prepped &	
							betadine, skin-strips to	
							3 lacerations, adaptive do	
							not over bony area out.	
							Sof. band wrapped over	
							adaptive. Pains at bedside	
0530	124/54	96	16				Report to surgery	
0455							Applied SLA to pt. ③ Pt not	
							in without any difficulties. Little reaction	
							of pt from pt. was helped by [REDACTED]	
							checked by R. [REDACTED] as well as [REDACTED]	
							Nil was intst	

EMERGENCY CARE SHEET

☐ BLS☒ ALSHOSPITAL  
BASE STATION REPORTNATURE:        *mtt*

AGE	17
M	(F)
WT.	

## COMPLAINTS/TREATMENTS:

*drives*

*air bag*

*ETOT*

*% neck pain*

*② hip pain*

*low. ② leg*

*② a b l o*

*abd OK*

ALLERGIES:       ETA:       

DATE	<i>94</i>	VEHICLE	<i>95</i>
RESPONDING SERVICE			
PATIENT NAME: <i>[REDACTED]</i>			

## VITAL SIGNS:

TIME	B/P	HR	R	EKG
0325	<i>80/58</i>	104	24	<i>5 lead</i>

## TREATMENT:

AIRWAY	OXYGEN	IV
O.P./N.P.	<i>CANNULA</i>	D5W
ETT	MASK	L/R
EGTA	<i>NON-REBREATH</i>	NaCl
PTLA	____ L/Min	RATE: <i>720</i>

HEALTH HX:       

MEDICATIONS: DOSE/TIME DOSE/TIME DOSE/TIME

ATROPINE			
D50 W			
DOPAMINE			
EPI 1:10,000			
ISUPREL			
LASIX			
LIDO BOLUS			
LIDO DRIP			
MS			
NaHCO3			
NTG			

MEDS:       DR. SIGNATURE:       NURSE SIGNATURE:

# REPORT OF AMBULANCE RUN

State Form 44892 (R4 / 9-93)

Run number [redacted] Provider [redacted]  
 Type of run ☐ BLS ☐ Adv. EMT ☒ Paramedic ☐ Non-Transport ☐ Convalescent Page 1 of 3

INSTRUCTIONS: 1. Print legibly with ballpoint pen - you are making 4 copies.  
 2. Enter all requested times using 24-hour clock (example: enter 2:15 p.m. as 1415)  
 3. Complete all information requested.

RUN INFORMATION													
Date of run (month/year) <u>94</u>		Vehicle no. [redacted]		Dispatch Location [redacted]		Destination location / or unit [redacted]							
Law enforcement # <u>mc35</u>		County <u>53</u>		[redacted]									
PATIENT INFORMATION													
Name (last, first, middle) [redacted]						Date of birth (month/day/year) [redacted]		Age <u>17</u>					
Home address (number, street, apartment / RR #, city or town, state, ZIP code) [redacted]						<input type="checkbox"/> No fixed address		Social Security number [redacted]					
[redacted] Dr. [redacted]						Gender (sex) <input type="checkbox"/> Male <input checked="" type="checkbox"/> Female		Physician's name [redacted]					
Race / ethnicity <input checked="" type="checkbox"/> White <input type="checkbox"/> Black <input type="checkbox"/> Native American <input type="checkbox"/> Hispanic <input type="checkbox"/> Asian <input type="checkbox"/> Other						[redacted]							
BILLING INFORMATION													
Name of guarantor [redacted]				Relationship to patient <u>Dad</u>		Medicare number [redacted]							
Home address (street, apartment / RR #, city or town, state, ZIP code) [redacted]				Employer <u>Unk.</u>		Medicaid number [redacted]							
[redacted]				Home telephone [redacted]		State [redacted]		Other insurance information [redacted]					
Payment expected <input type="checkbox"/> Medicare <input type="checkbox"/> Private insurance <input type="checkbox"/> Workman's Comp. <input type="checkbox"/> V.A. <input checked="" type="checkbox"/> Self - no insurance <input type="checkbox"/> Medicaid <input type="checkbox"/> Other (specify) [redacted]						<u>No Info.</u>							
TYPE OF RUN		MILEAGE OF RUN		TIMES OF RUN		PLACE OF INCIDENT							
<b>TO THE SCENE</b> <input checked="" type="checkbox"/> Lights & siren <input type="checkbox"/> No lights & siren <b>FROM THE SCENE</b> <input checked="" type="checkbox"/> Lights & siren <input type="checkbox"/> No lights and siren <input type="checkbox"/> Inter-facility <input type="checkbox"/> Scheduled <input type="checkbox"/> Stand-by		<b>NO TRANSPORT</b> <input type="checkbox"/> Canceled run <input type="checkbox"/> Refusal <input type="checkbox"/> No patient <input type="checkbox"/> Private car <input type="checkbox"/> Amb. _____ <b>SCENE DEATH</b> <input type="checkbox"/> No-Transport <input type="checkbox"/> Transport		<b>DISPATCH</b> AT SCENE <u>70</u> DESTINATION <u>76</u> TOTAL MILEAGE <u>6</u>		<b>CALL RECEIVED</b> [redacted] <b>UNIT DISPATCHED</b> <u>0241</u> <b>UNIT EN ROUTE</b> <u>0242</u>		<b>ARRIVE LOCATION</b> <u>0251</u> <b>AT PATIENT</b> <u>0252</u> <b>DEPART LOCATION</b> <u>0314</u>		<b>AT DESTINATION</b> <u>0340</u> <b>UNIT AVAILABLE</b> <u>0410</u> Total Run Time _____ Waiting Time _____		<input type="checkbox"/> Home <input type="checkbox"/> Hospital <input type="checkbox"/> Farm <input type="checkbox"/> Clinic <input type="checkbox"/> Construction site <input type="checkbox"/> Industrial site <input checked="" type="checkbox"/> <u>Street/Highway</u> <input type="checkbox"/> Public building <input type="checkbox"/> Recreational site <input type="checkbox"/> Residential site <input type="checkbox"/> Extended care facility <input type="checkbox"/> Other _____	
ON SCENE <u>MCSD</u>		PT. LOCATION <input checked="" type="checkbox"/> Driver <input checked="" type="checkbox"/> Front <input type="checkbox"/> Pass <input type="checkbox"/> Rear		CONDITION DURING TRANSPORT <input checked="" type="checkbox"/> Improved <input type="checkbox"/> No Change <input type="checkbox"/> Deteriorated		Check only if this applies <input type="checkbox"/> Transport difficulties explained in narrative		MEDICAL CONTROL CONTACT <input checked="" type="checkbox"/> Cellular <input type="checkbox"/> Land line <input type="checkbox"/> Telemetry <input type="checkbox"/> _____					
SAFETY EQUIPMENT				MODE OF INJURY				WORK RELATED					
<input type="checkbox"/> Lap belt <input type="checkbox"/> Secured child seat <input checked="" type="checkbox"/> Air bag <input type="checkbox"/> Unsecured child seat <input type="checkbox"/> Shoulder <input type="checkbox"/> None <input type="checkbox"/> Lap & shoulder <input type="checkbox"/> Unknown <input type="checkbox"/> Helmet <u>NO</u>				<input type="checkbox"/> ATV / Recr. <input type="checkbox"/> Explosion <input type="checkbox"/> Bicycle <input type="checkbox"/> Fall <input type="checkbox"/> Blunt / Assault <input type="checkbox"/> Gunshot <input type="checkbox"/> Drowning <input type="checkbox"/> Inhalation <input type="checkbox"/> Electrical <input type="checkbox"/> Machinery <input type="checkbox"/> Motorcycle <input checked="" type="checkbox"/> Motor vehicle <input type="checkbox"/> Pedestrian <input type="checkbox"/> Poison <input type="checkbox"/> Stab / Cut				<input type="checkbox"/> Thermal / Flame <input type="checkbox"/> Unknown <input type="checkbox"/> None <input type="checkbox"/> Other _____				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
CARE PROVIDED PRIOR TO AMBULANCE ARRIVAL													
At Scene <input checked="" type="checkbox"/> Police <input type="checkbox"/> Medical facility <input checked="" type="checkbox"/> Res. sq. <input type="checkbox"/> Other Amb. <input type="checkbox"/> Fire Dept. <input checked="" type="checkbox"/> Bystander <input type="checkbox"/> Family <input type="checkbox"/> None				Care provided? <input type="checkbox"/> Immobilization <input type="checkbox"/> CPR <input type="checkbox"/> Dressing <input type="checkbox"/> I.V. <input type="checkbox"/> Oxygen <input checked="" type="checkbox"/> Defib <input type="checkbox"/> Extrication <input type="checkbox"/> Meds <input type="checkbox"/> Airway management									
Incident Time <u>0310</u>		Witnessed Cardiac Arrest? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Care performed by: (name) [redacted]				Time ALS on scene [redacted]		First Responder Unit # [redacted]			
TIME		B / P		PULSE		RESPIRATION		IMPRESSION					
<u>0310</u>		<u>100/58</u>		Rate <u>104</u> <input checked="" type="checkbox"/> Regular <input type="checkbox"/> Weak <input type="checkbox"/> Irregular <input type="checkbox"/> Bounding		Rate <u>20</u> <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Wheezes <input type="checkbox"/> Rales <input type="checkbox"/> Equal <input type="checkbox"/> R>L <input type="checkbox"/> L>R <input type="checkbox"/> Normal <input type="checkbox"/> Labored <input type="checkbox"/> Assisted		<input type="checkbox"/> Abdominal pain <input type="checkbox"/> Fever <input type="checkbox"/> Allergy <input type="checkbox"/> Headache <input type="checkbox"/> Back pain <input type="checkbox"/> Hemorrhage <input type="checkbox"/> Breathing problem <input type="checkbox"/> Pregnancy / Comp <input type="checkbox"/> Cardiac arrest <input type="checkbox"/> Respiratory arrest <input type="checkbox"/> Chest pain <input type="checkbox"/> Seizure <input type="checkbox"/> Choking <input type="checkbox"/> Stroke <input type="checkbox"/> Diabetic state <input type="checkbox"/> Other: _____					
INFECTION CONTROL				PUPIL RESPONSE		SENSATION / MOVEMENT		SKIN					
<input checked="" type="checkbox"/> Gloves <input type="checkbox"/> Goggles <input type="checkbox"/> Gowns <input type="checkbox"/> Masks <input type="checkbox"/> Vehicle draping				<input checked="" type="checkbox"/> PERL <input type="checkbox"/> Constrict <input type="checkbox"/> Non-react <input type="checkbox"/> Unequal <input type="checkbox"/> Dilated <input type="checkbox"/> L Lg. <input type="checkbox"/> Deviated <input type="checkbox"/> R Lg.		<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Right only <input type="checkbox"/> To neck <input type="checkbox"/> Left only <input type="checkbox"/> To waist <input type="checkbox"/> Other _____		<input checked="" type="checkbox"/> Warm <input type="checkbox"/> Dry <input type="checkbox"/> Moist <input type="checkbox"/> Cold <input type="checkbox"/> Flushed <input type="checkbox"/> Pale <input type="checkbox"/> Cyanotic <input type="checkbox"/> Hot <input type="checkbox"/> Profuse Sweating Cap refill _____ sec					
Exposure: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> On line <input type="checkbox"/> Off line <input type="checkbox"/> N / A				Medical direction protocol <input type="checkbox"/> On line <input type="checkbox"/> Off line <input type="checkbox"/> N / A									

DISTRIBUTION: White (top) - Provider White - (2nd) - EMS Commission Canary - Insurance Pink - Hospital

Name of patient /

Date

Run number

Time of onset

A. M.

P. M.

## TRAUMA ASSESSMENT

How was patient found / what was mechanism of injury?

Mark each matrix square which applies to injury to specific areas listed below!

	Pain	Open soft	Definitely	Closed soft	Penetrating	Burn	Amputation
Head							
Face / eye							
Neck							
Chest							
Back							
Abdomen							
Upper arm/shoulder							
Lower arm/elbow							
Hand / wrist							
Upper leg / hip							
Lower leg / knee							
Foot / ankle							

Chief complaint

Medical history:

- ☐ Alcoholism  
☐ Asthma  
☐ Behavioral disorder  
☐ Cancer  
☐ COPD  
☐ CVA  
☐ Diabetes  
☐ Heart disease  
☐ High blood pressure  
☐ Kidney disease  
☐ Seizures  
☒ None

Prescribed medications (see narrative)

Allergies

None

## NONVISUALIZED AIRWAY

## DEFIBRILLATION

Time	Technician number	Attempts	Successful
Type	Technician number	Attempts	Successful
Time			
Joules			

- ☐ Manual  
☐ Automatic  
☐ Semi Automatic

- ☐ Auto Vent  
☐ BVM  
☐ Endotracheal  
☐ Manual  
☒ Mask  
☐ Pocket mask  
☐ Nasal Cannula  
☐ Nonvisualized  
☐ Oral / Nasal  
☒ Oxygen  
☐ Suction  
☐ Oximetry
- ☐ Bleeding control  
☒ Blood specimen  
☐ Burn Pack  
☐ Chest Decompr  
☐ CPR  
☐ Cricothyrotomy  
☐ Drug admin.  
☐ Extrication  
☐ ECG  
☒ Monitor  
☐ Defib  
☐ Cardioversion  
☐ Pacing  
☐ 12-Lead
- ☐ Glucose mg/dl  
☒ IV initiated  
☐ Intravenous  
☐ MAST  
☐ NG tube  
☐ OB delivery  
☐ SPLINT  
☐ Air splint  
☒ Backboard  
☐ Scoop  
☐ Cervical collar  
☐ Head immobilized  
☐ Short back device  
☐ Other:

## GLASGOW COMA SCALE

Eyes Open	Spontaneous	4	4	4	4
	To verbal command	3	3	3	3
	To pain	2	2	2	2
	No response	1	1	1	1
Verbal Response	Oriented	5	5	5	5
	Confused	4	4	4	4
	Inappropriate words	3	3	3	3
	Incomprehensible sounds	2	2	2	2
	No response	1	1	1	1
Motor Response	Obeys commands	6	6	6	6
	Localized pain	5	5	5	5
	Withdraws	4	4	4	4
	Abnormal flexion	3	3	3	3
	Abnormal extension	2	2	2	2
	No response	1	1	1	1
Total Score		14			
Time					

## NARRATIVE

Narrative should include a complete chronological flow of events, including times, patient condition, each procedure rendered and how each affected the patient's condition, and, if patient is monitored, describe ECG and staple ECG strip to original report.

Called to respond to 10-50 PT on 10-23 found auto approx 30' down  
 bonk. c single pt in auto, pt conscious, but not alert. RxC collar  
 in place per [redacted] F.P. pt & neck pain on moving leg. Also @ hip  
 pain. @ foot caught under dash. This leg + pt placed on long  
 board & head held + straps in place. pt has odor of ETCh noted well  
 out till her nose or eye is holding legs up & knees bent. Carried  
 pt up to Gt + into ambulance. vitals taken, lung sounds clear  
 + equal. Skin w/t a. abd soft + non tender. pt has several small LAC  
 to R leg + leg. @ ankle swollen. pt only @ hip pain, able to  
 move all extremities, eyes open. O2 started at 2 litters by  
 [redacted] heat monitor put on show sinus tach 3 ectops. IV of NAC  
 started in QAC @ 18:44. site prepped + betadine. blood drawn + IL. The  
 transported pt back III to HEP enroute pt's legs padded in  
 supine position. pt still quivering since her nose but will verbally  
 respond. no other changes in pt on 10-23 E.P.

Air GAG WAS Activated

Driver

1st Crew member

2nd Crew member

Signature of person receiving patient

Check here  
if request by  
Medical Director  
is requested

Certification Number

Certification Number

Certification Number

**TRANSPORTATION RESEARCH CENTER**

**Indiana University  
Bloomington, Indiana 47403-1599**

**ON-SITE AIR BAG INVESTIGATION**

**SELECTED PHOTOGRAPHS**

**CASE NO. - 94-11**

**FLEET - PRIVATE VEHICLE**

**LOCATION - [REDACTED] INDIANA**

**ACCIDENT DATE [REDACTED] 1994**

**A total of sixty-four color copies of photographs are presented and referenced as Photograph #01 through Photograph #64. All of these photographs were taken by the Transportation Research Center.**

**[REDACTED] 1994**

**Contract Number: DTNH22-94-D-17058**

**Prepared for:**

**U.S. Department of Transportation  
National Highway Traffic Safety Administration  
National Center for Statistics and Analysis  
Washington, D.C. 20590**





# 01 -- 1994 Oldsmobile Cutlass Ciera S's westward, uphill, path of travel approximately 70 meters east of first harmful event



# 02 -- 1994 Oldsmobile Cutlass Ciera's westward path of travel, near hillcrest, approximately 50 meters east of first harmful event





# 03 -- 1994 Oldsmobile Cutlass's westward, downhill, path of travel  
 ~ 20 meters east of POI & west of left-hand curve's beginning



# 04 -- 1994 Oldsmobile Cutlass's westward, downhill (~ 4 %), travel  
 path near beginning of left-hand curve-- ~ 10 meters east of POI





# 05 -- 1994 Oldsmobile Cutlass Ciera's westward travel path just east of its mailbox and paper holder impacts on the north roadside

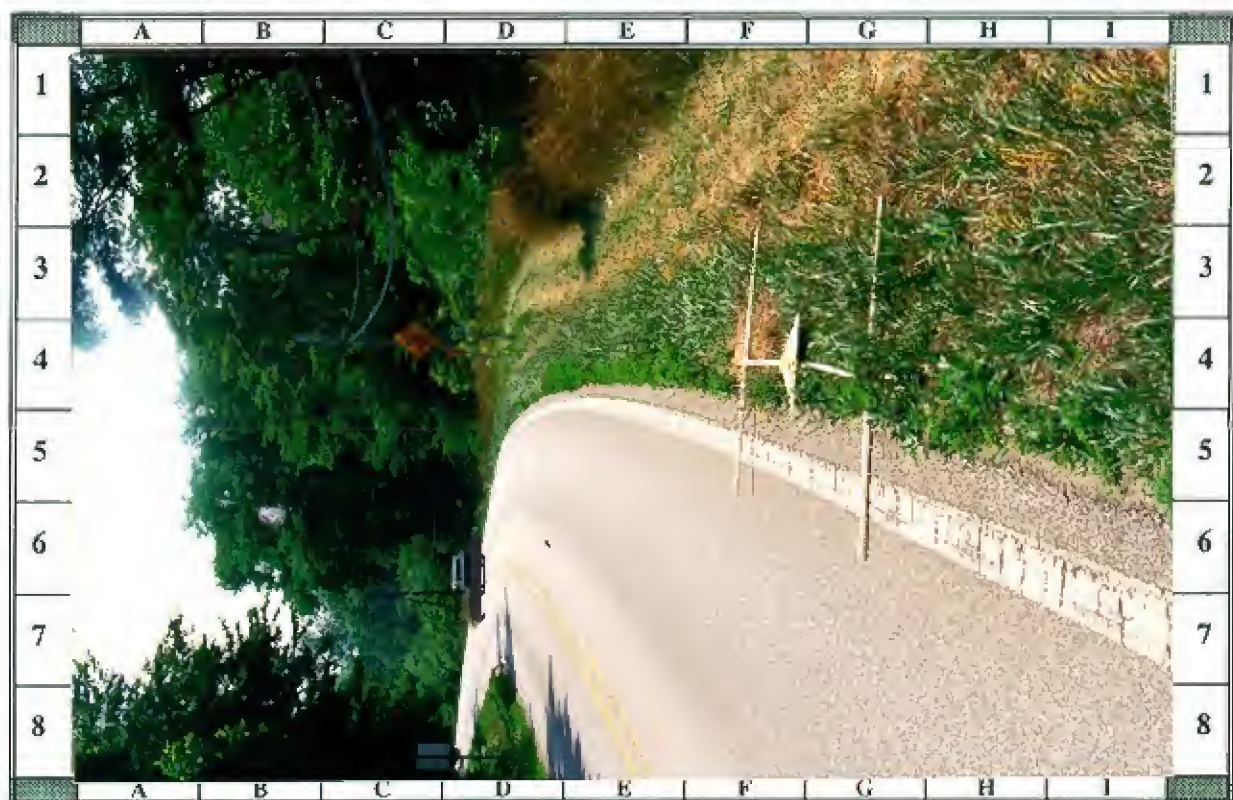


# 06 -- Looking back (eastward) at 1994 Oldsmobile Cutlass's travel path from beyond initial impacts; NOTE: hillcrest and start of curve





# 07 -- 1994 Oldsmobile Cutlass Ciera's westward travel path between 2nd & 3rd impacts; NOTE: right wheels are tracking along N roadside



# 08 -- 1994 Oldsmobile Cutlass Ciera's southwestward path of travel ~ 30 meters east of sign posts; NOTE: vehicle is still tracking





# 09 -- 1994 Oldsmobile Cutlass Ciera's southwestward travel path along N roadside just prior to beginning of counterclockwise rotation



# 10 -- 1994 Oldsmobile Cutlass Ciera's southwestward path of travel ~ 15 meters east of sign posts; NOTE: vehicle is in CCW rotation





# 11 -- 1994 Oldsmobile Cutlass Ciera's southwestward travel path just prior to impacting left sign post and subwarning sign



# 12 -- Close-up of 1994 Oldsmobile Cutlass Ciera's third impact with left sign post and subwarning sign (i.e., NEXT 1 MILE)





# 13 -- 1994 Oldsmobile Cutlass Ciera continues southwestward along N roadside after striking left sign post and subwarning sign



# 14 -- Looking back (northeastward) at 1994 Oldsmobile Cutlass's travel path; NOTE: 2 right side tire yaw marks in grass on N roadside





# 15 -- 1994 Oldsmobile Cutlass Ciera's southwestward travel path just prior to re-entering roadway; NOTE: vehicle is tracking



# 16 -- 1994 Oldsmobile Cutlass Ciera heads south across southwestbound and northeastbound travel lanes toward south roadside





# 17 -- Close-up of '94 Oldsmobile Cutlass Ciera's tire marks on roadway from driver's oversteering (see cells D5, E4, and G4)



# 18 -- 1994 Oldsmobile Cutlass Ciera's southward path of travel across northeastbound travel lane prior to departing to south roadside





# 19 -- Looking back (northward) at 1994 Oldsmobile Cutlass Ciera's path of travel across roadway; NOTE: highlighted tire marks



# 20 -- 1994 Oldsmobile Cutlass Ciera's southward path of travel across south roadside ~ 16 meters from impact with large (~37 cm) tree





# 21 -- 1994 Oldsmobile Cutlass Ciera's southward travel path down south roadside ~ 12 meters from impact with large (~37 cm) tree



# 22 -- 1994 Oldsmobile Cutlass Ciera's southward travel path down south roadside ~ 10 meters from impact with large (~37 cm) tree





# 23 -- 1994 Oldsmobile's southward travel path down south roadside ~ 6 meters from large tree impact; NOTE: LF tire mark in cell G7



# 24 -- 1994 Oldsmobile Cutlass Ciera's southward travel path down south roadside at impact with large (~37 cm) tree



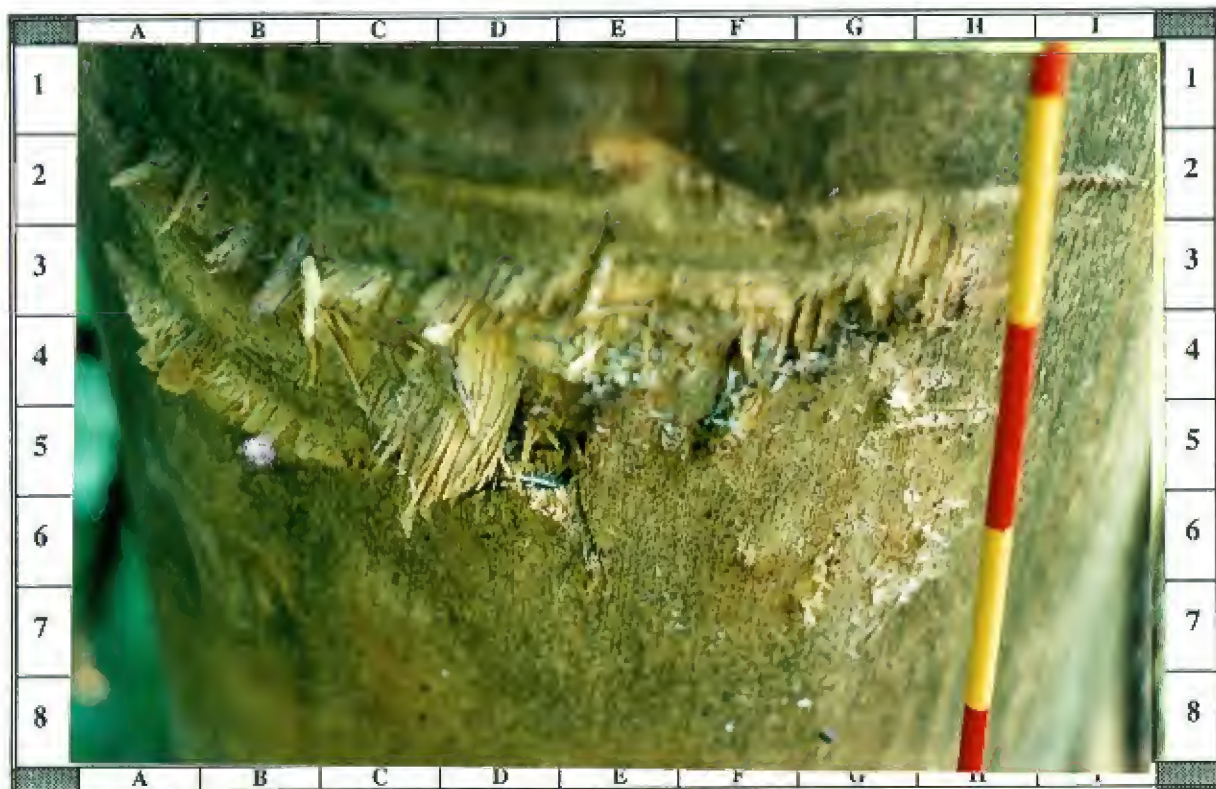


# 25 -- 1994 Oldsmobile Cutlass Ciera S's position at maximum engagement with large (~37 cm) tree and start of clockwise rotation



# 26 -- Close-up of large (~37 cm) tree impacted by 1994 Oldsmobile Cutless Ciera S; NOTE: distinct transverse tree damage





# 27 -- Closer-up of topmost transverse tree damage showing plastic and metal embedded in tree from impact with 1994 Oldsmobile Cutlass



# 28 -- Final rest position of 1994 Oldsmobile Cutlass Ciera S heading west-northwest; NOTE: orange paint marks are from police





# 29 -- Final rest position of '94 Oldsmobile Cutlass Ciera's left front tire looking northward; NOTE: orange paint mark is from police

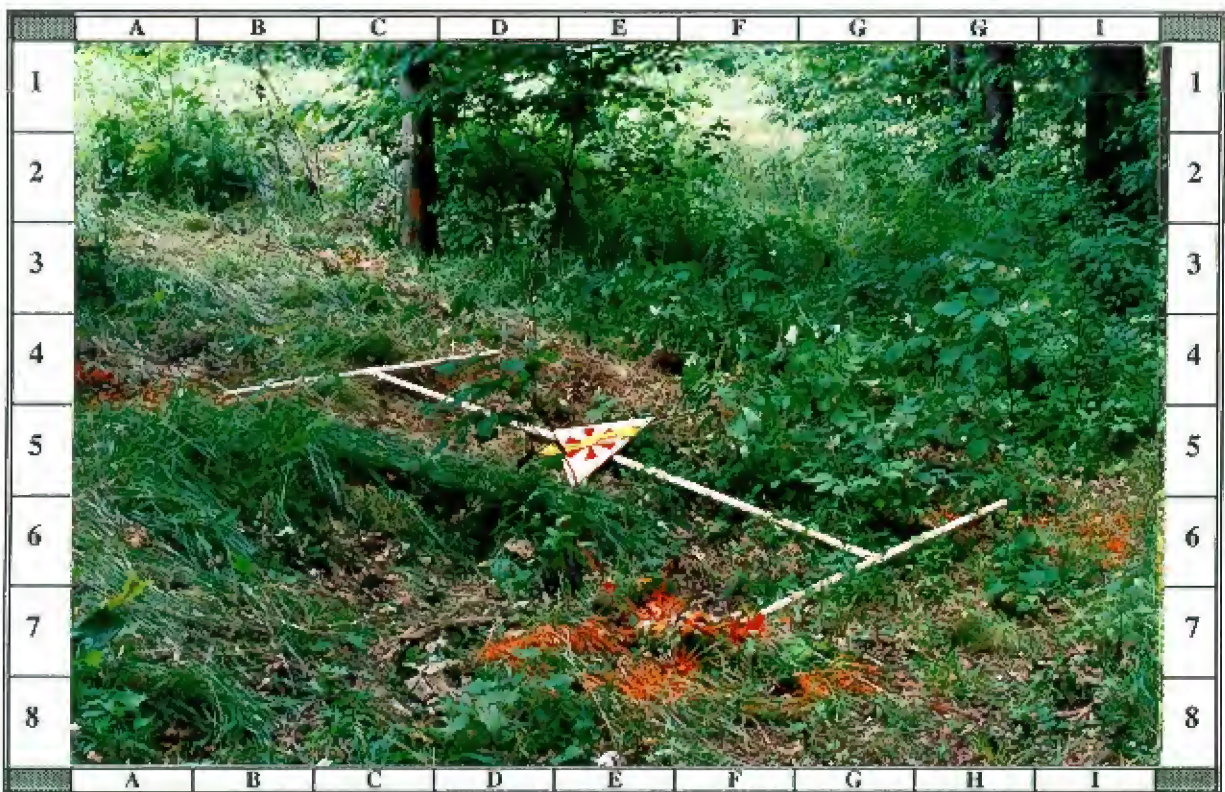


# 30 -- Final rest position of '94 Oldsmobile Cutlass Ciera's left rear tire looking northward; NOTE: orange paint mark is from police





# 31 -- Final rest position of '94 Oldsmobile Cutlass Ciera's right rear tire looking northward; NOTE: orange paint mark is from police



# 32 -- Reconstruction jig shows final rest position of 1994 Oldsmobile Cutlass Ciera heading west-northwest--looking northward





# 33 — 1994 Oldsmobile Cutlass Ciera S's front right corner impact with large (~37 cm) tree; NOTE: contour guage and shifting



# 34 — Close-up with contour guage of front right impact to 1994 Oldsmobile Cutlass Ciera; NOTE: undercarriage grass from extraction





# 35 -- Close-up without contour guage of front right crush to '94 Oldsmobile Cutlass Ciera; NOTE: undercarriage grass from extraction



# 36 -- Right front overhead view of front right crush to '94 Oldsmobile Cutlass Ciera S from large tree (~37 cm) impact





# 37 -- 1994 Oldsmobile Cutlass Ciera S's front crush with contour guage viewed across reference line from left



# 38 -- 1994 Oldsmobile Cutlass Ciera S viewed from left showing frontal rightward shift and induced damage to right A-pillar





# 39 -- 1994 Oldsmobile Cutlass Ciera S viewed from front along left side showing frontal rightward shift



# 40 -- 1994 Oldsmobile Cutlass Ciera S viewed from back left; NOTE: grass and orange paint (see cells C6--D6) on left rear wheel





# 41 -- 1994 Oldsmobile Cutlass Ciera S viewed from back; NOTE: induced damage to right A-pillar and roof and impact to RR wheel cover



# 42 -- 1994 Oldsmobile Cutlass Ciera viewed from back along right side showing induced damage to right A-pillar, roof, and RF door





# 43 – Close-up of '94 Oldsmobile viewed from right showing right door panels & RR wheel rim & cover damage from sign post impact (3rd)



# 44 – Closer-up of deep scratch to 1994 Oldsmobile Cutlass Ciera S's right quarter panel from impact (3rd) with subwarning sign





# 45 -- Close-up of swiping damage to 1994 Oldsmobile Cutlass Ciera S's right front door panel from sign post impact (3rd)

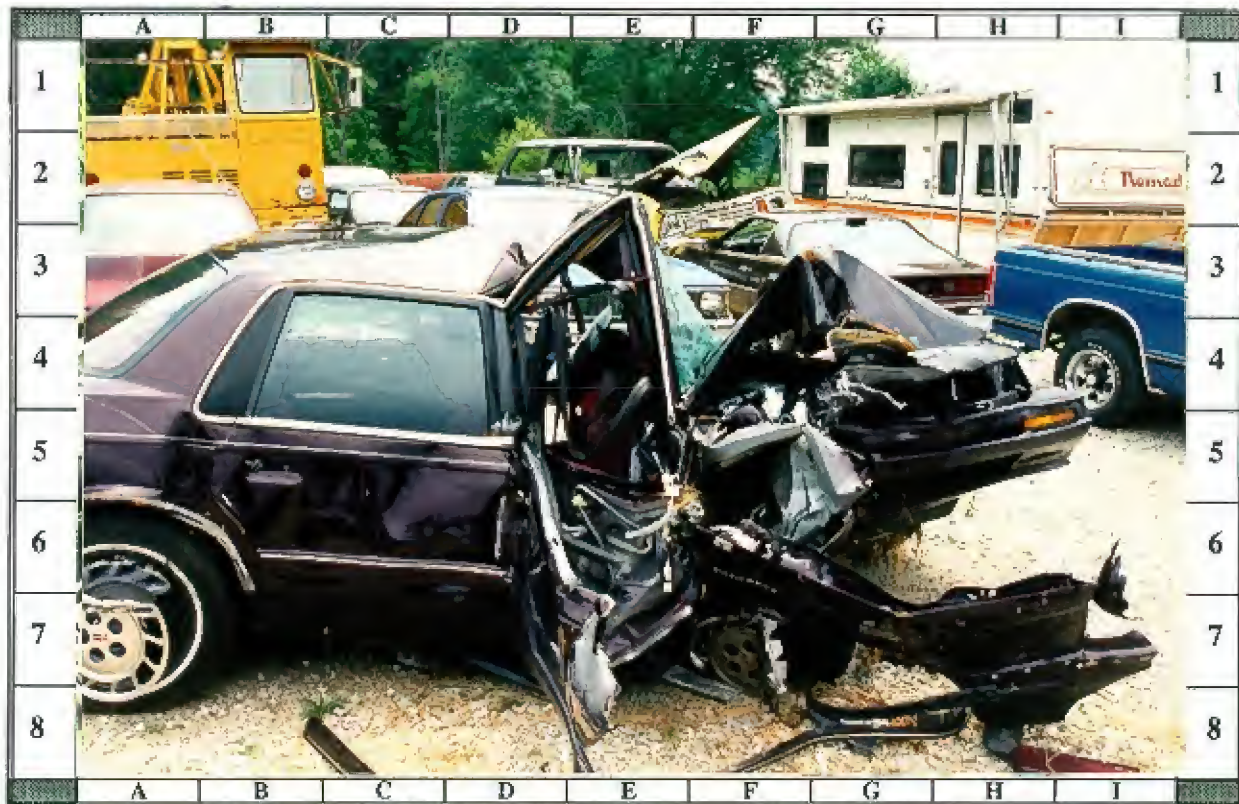


# 46 -- Scratches to 1994 Oldsmobile Cutlass Ciera's right B-pillar and rear of RF & front of RR window frames from mailbox impact (1st)





# 47 -- Close-up of damage to '94 Cutlass Ciera's right fender, wheel, rim, and wheel cover; NOTE: vertical rod represents max crush"

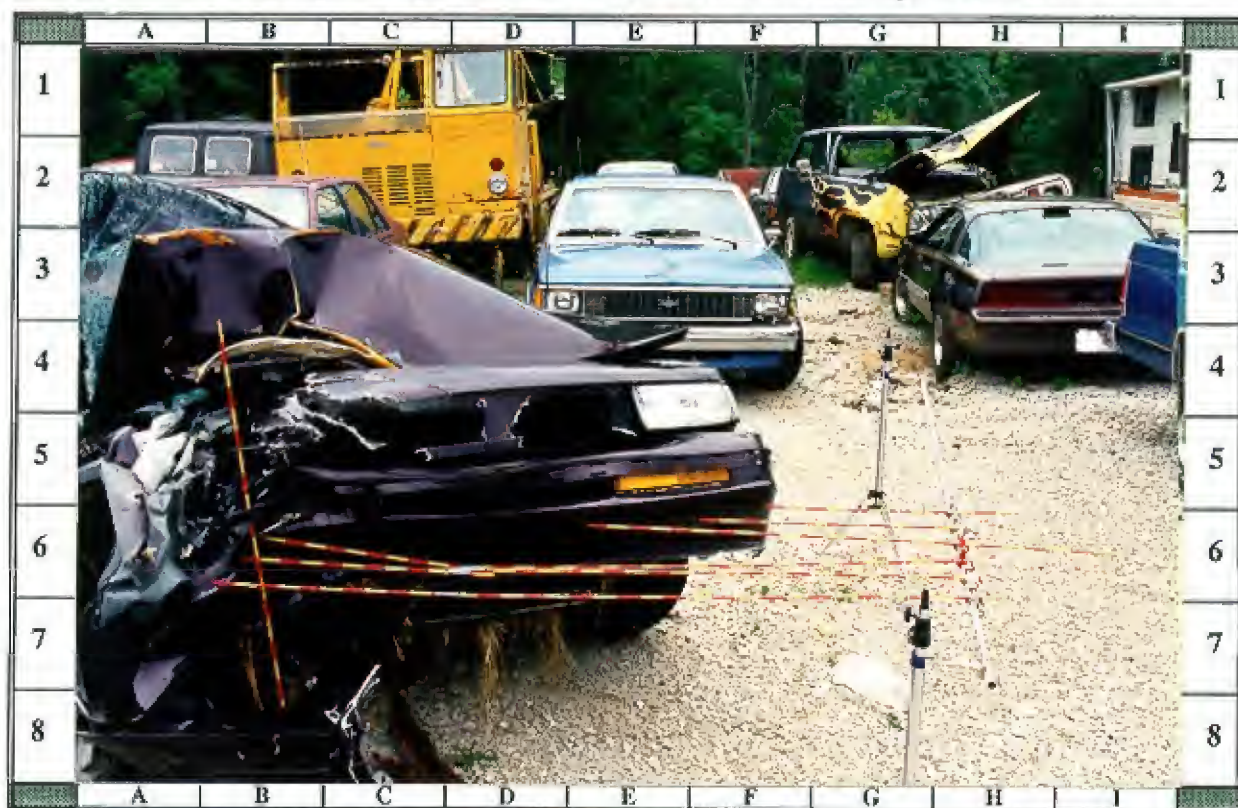


# 48 -- 1994 Oldsmobile Cutlass Ciera S viewed from right showing extensive frontal crush and intrusion at the right A-pillar area



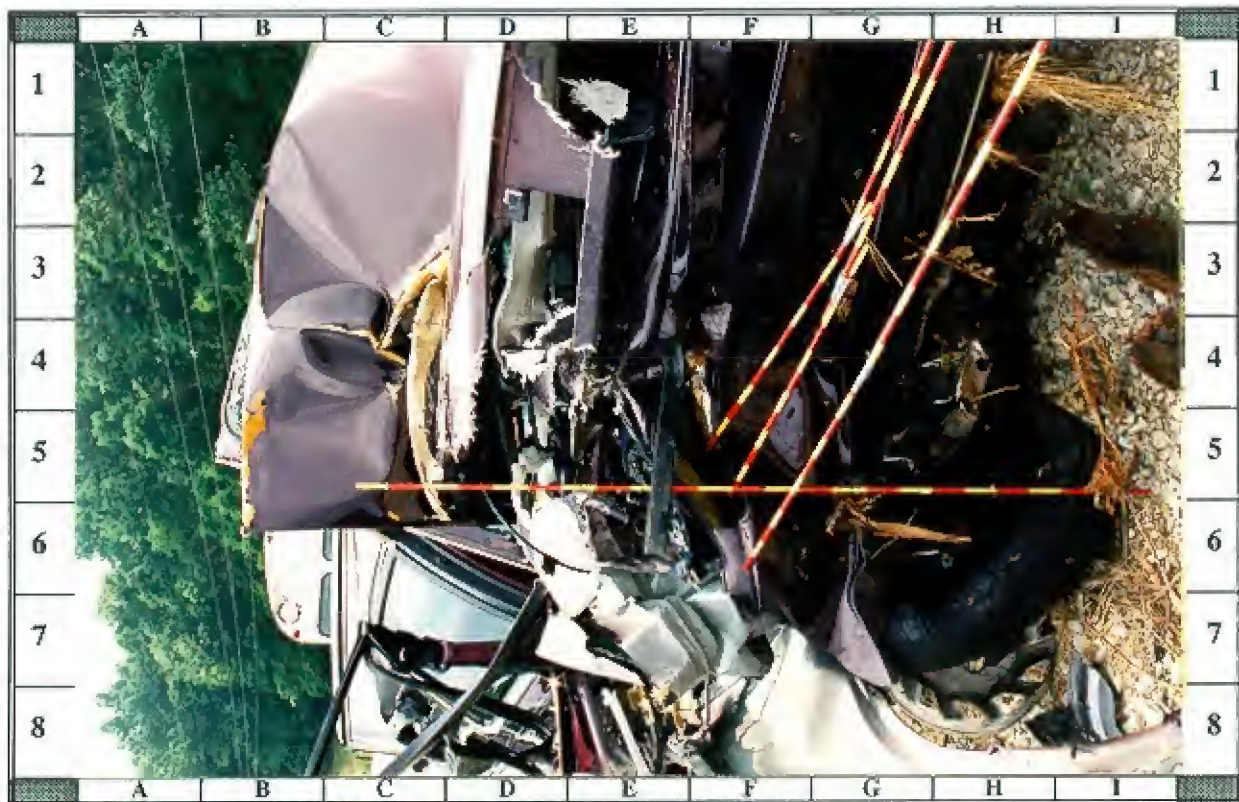


# 49 -- 1994 Oldsmobile Cutlass Ciera viewed from front right with contour gauge set-up; NOTE: vertical rod & frontal rightward shift



# 50 -- 1994 Oldsmobile Cutlass Ciera S's front crush with contour gauge viewed across reference line from right; NOTE: vertical rod



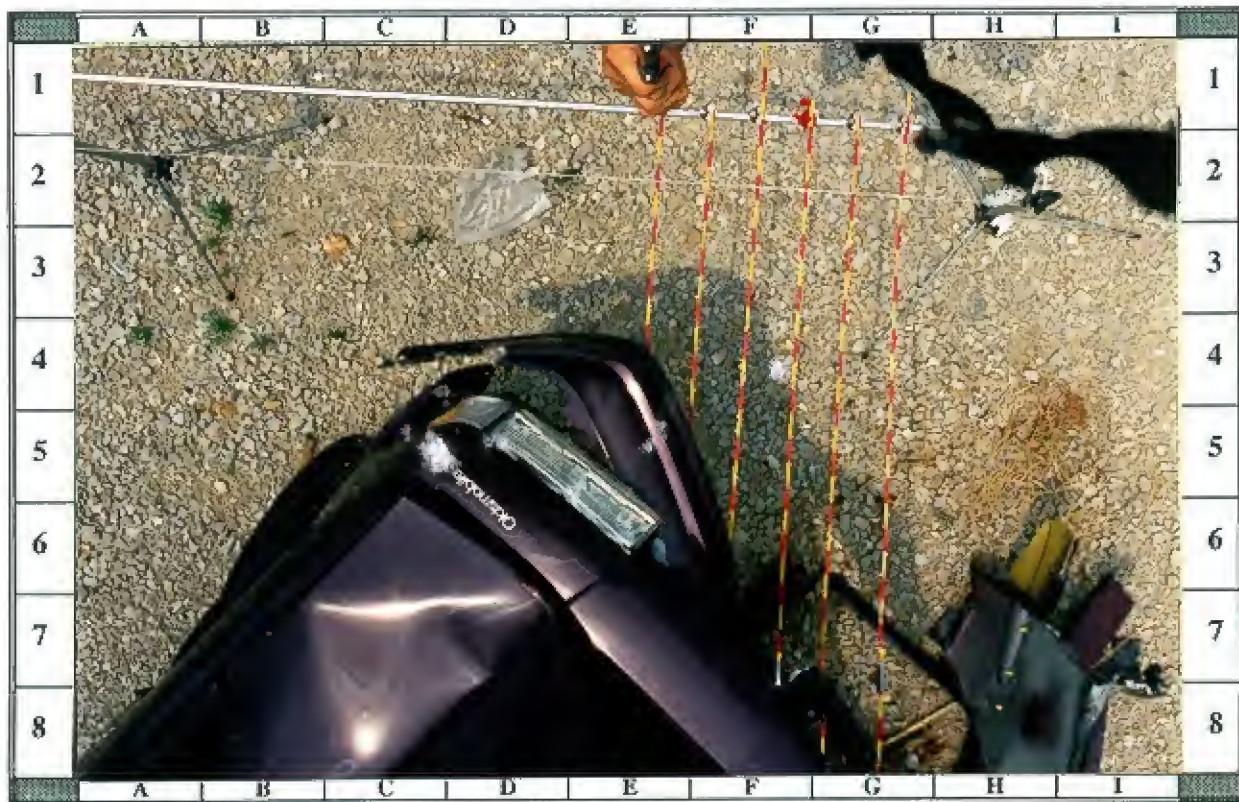


# 51 -- Close-up of 1994 Oldsmobile Cutlass Ciera S's direct damage at front right corner (i.e., area of maximum crush)

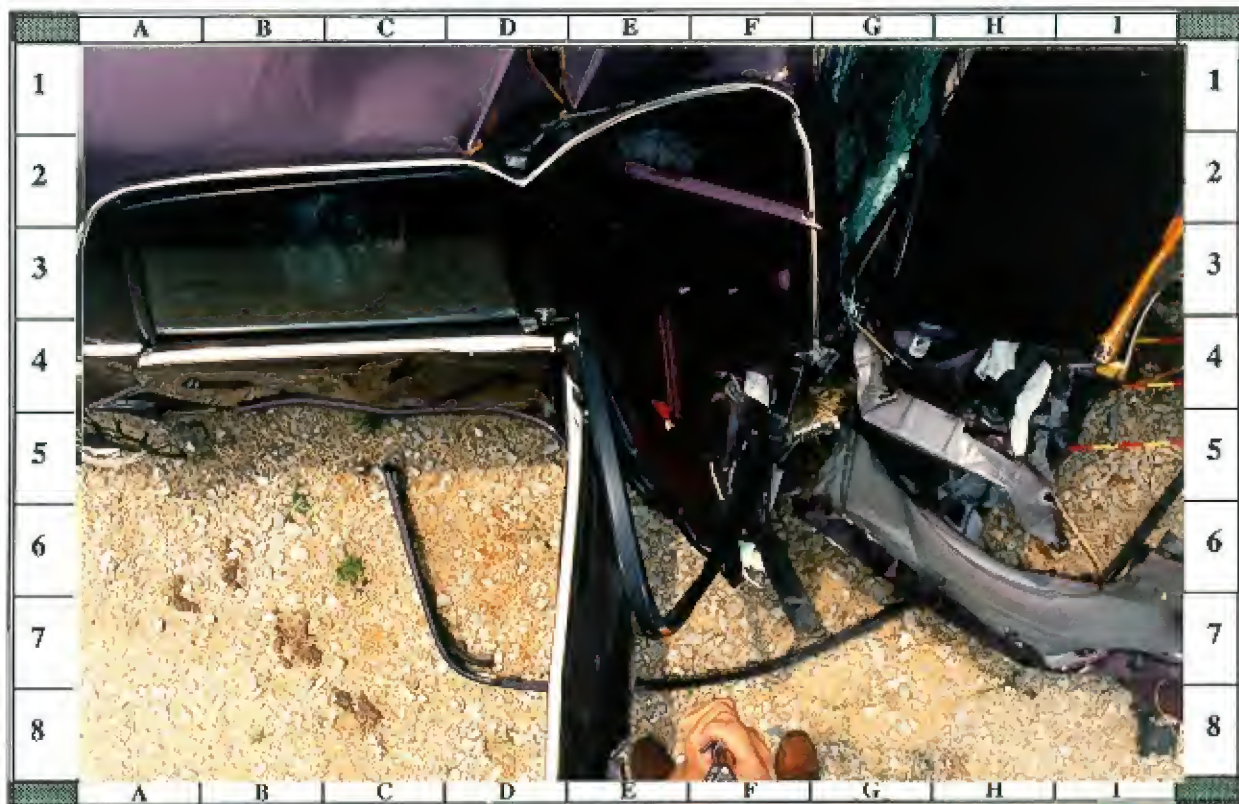


# 52 -- 1994 Oldsmobile Cutlass Ciera viewed from front along right side showing pulled out R fender & door panel; NOTE: vertical rod





# 53 – Front right overhead view of front right crush to '94 Oldsmobile Cutlass Ciera S from large tree (~37 cm) impact; NOTE: field L



# 54 – Right passenger overhead view of FR crush to '94 Oldsmobile Cutlass Ciera showing induce damage to R A-pillar, roof, & door





# 55 -- Driver's area of 1994 Oldsmobile Cutlass Ciera showing deployed air bag and extensive intrusion into right front occupant space

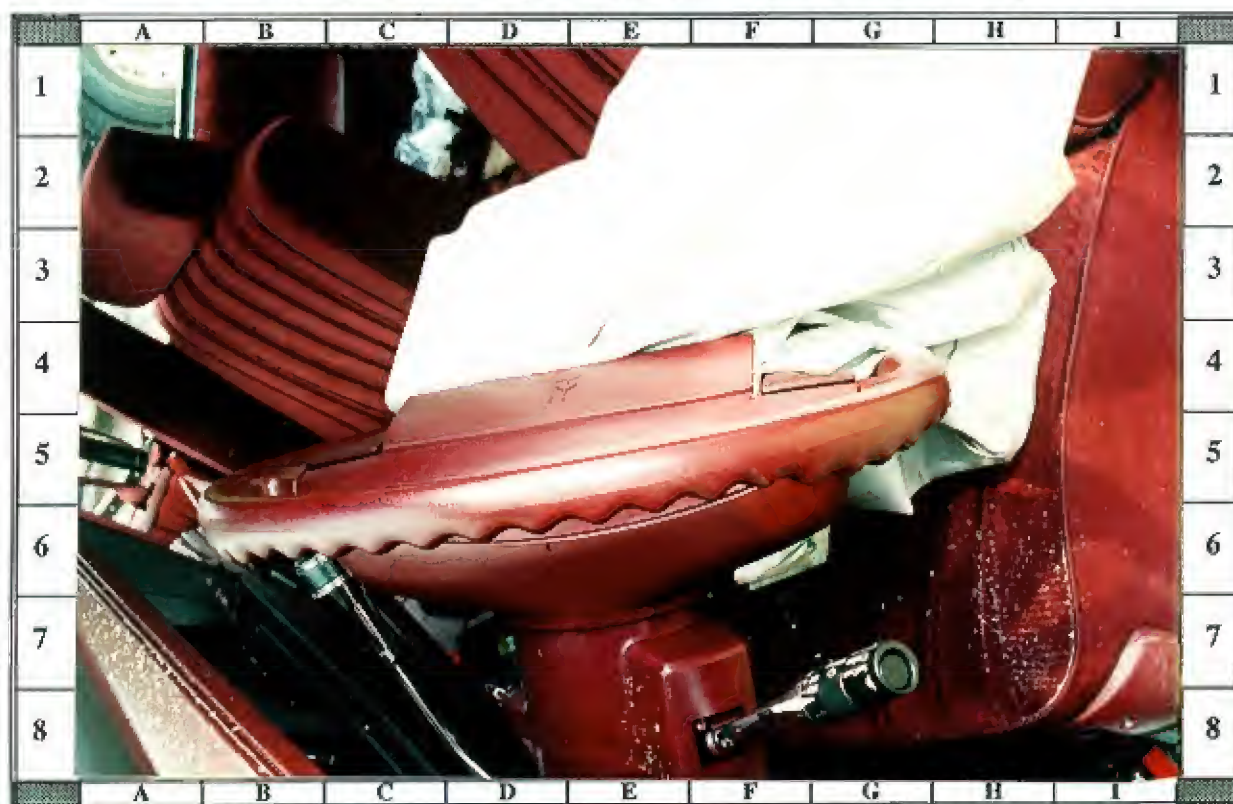


# 56 -- Close-up of dried blood smear on interior surface of 1994 Oldsmobile Cutlass Ciera S's driver door





# 57 -- Front passenger seating area of 1994 Oldsmobile Cutlass Ciera S showing deployed air bag & intrusion of right dash into RF space

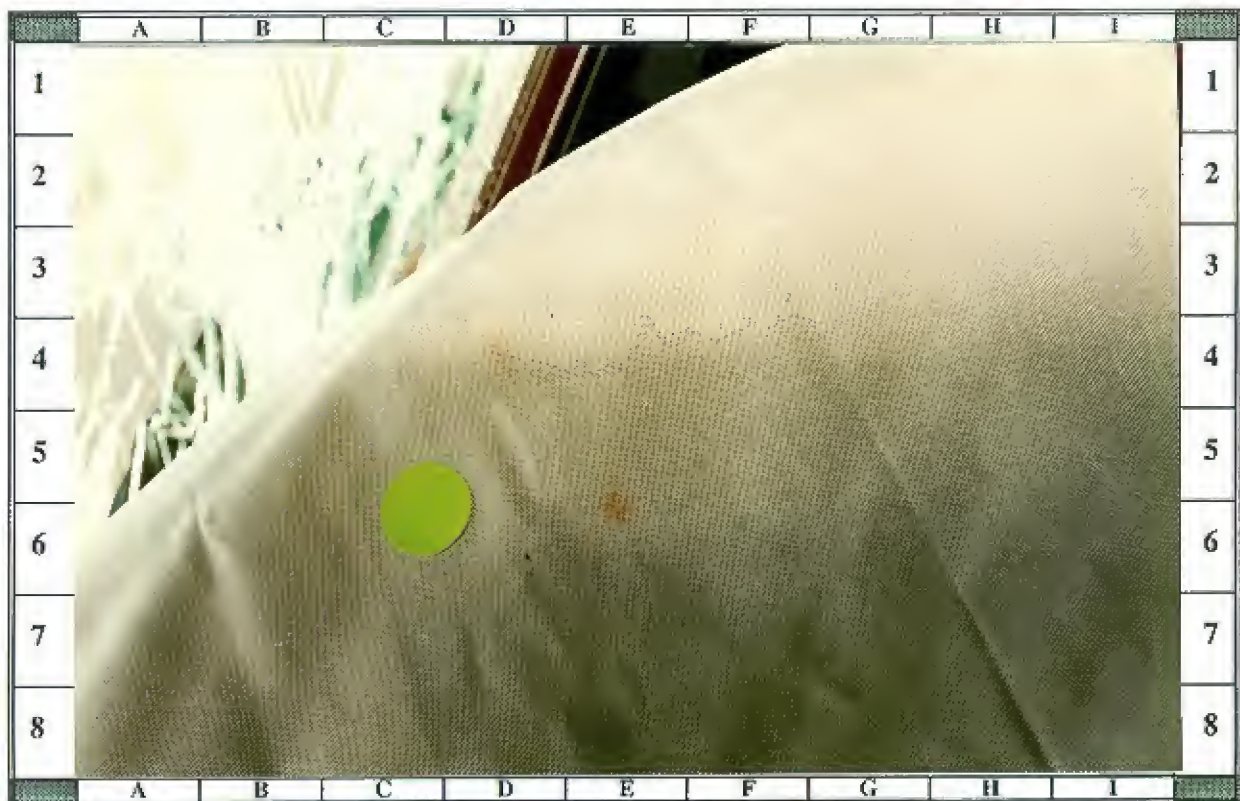


# 58 -- Left side view of undeformed driver's steering wheel in 1994 Oldsmobile Cutlass Ciera; NOTE: extensive right dash intrusion



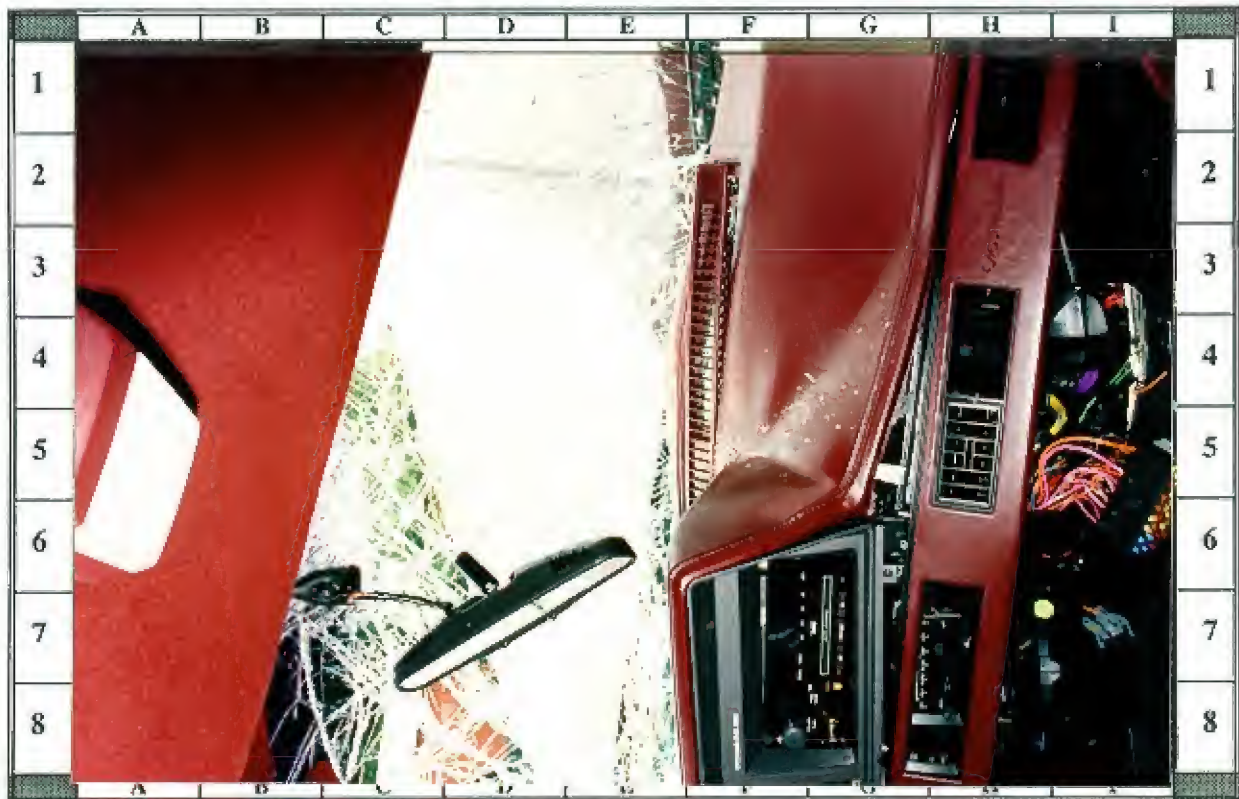


# 59 -- 1994 Oldsmobile's steering wheel and dash viewed from the right;  
NOTE: hair on sunvisor (cell B6) and dash indentation (cell F5)



# 60 -- Close-up of probable facial contact to 1994 Oldsmobile Cutlass  
Ciera S's driver air bag





# 61 -- Close-up of 1994 Oldsmobile Cutlass's left & center dash; NOTE: dash damage, R knee contact (cells H6-I7), & rearview mirror

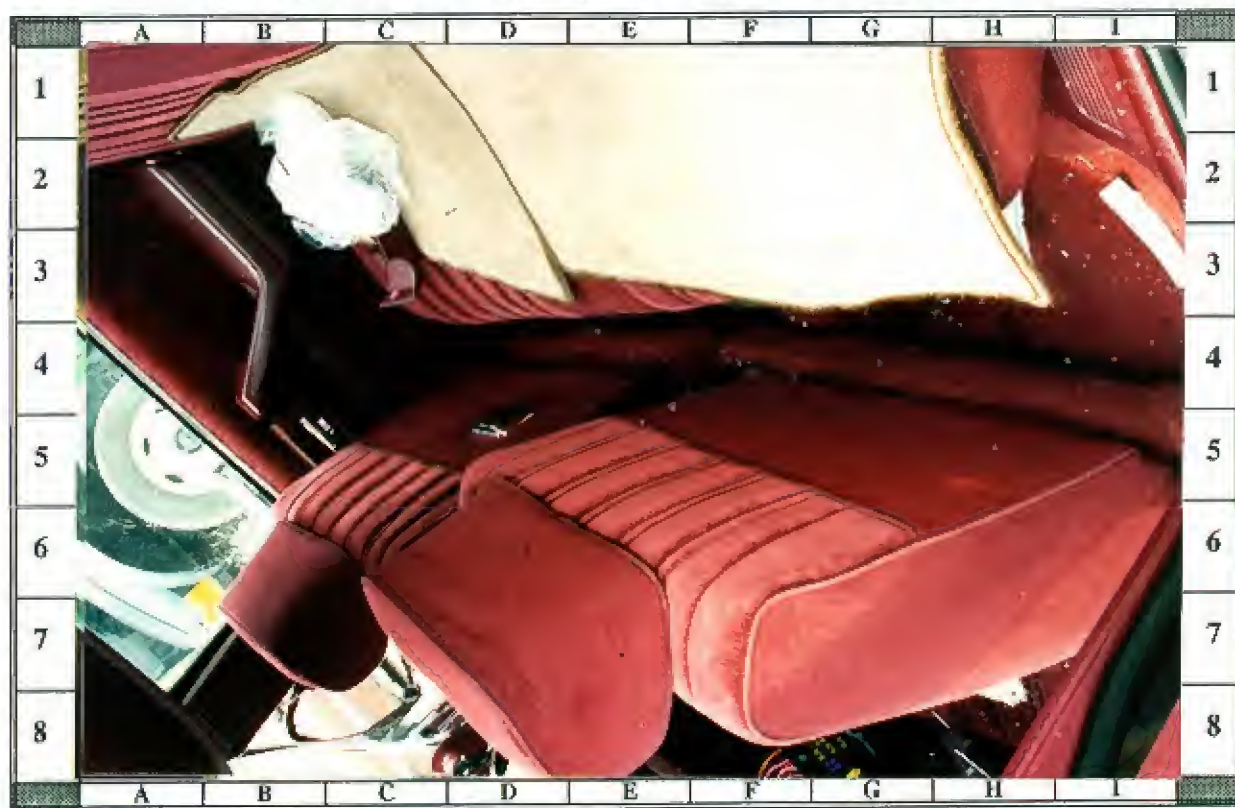


# 62 -- Close-up of 1994 Oldsmobile Cutlass Ciera S's right dash; NOTE: extensive dash intrusion & glove box & induced windshield damage





# 63 -- Front passenger seating area of 1994 Oldsmobile Cutlass viewed from right; NOTE: right A-pillar and intrusion into RF space



# 64 -- Rear passenger seating area & front seat backs of '94 Oldsmobile Cutlass; NOTE: RF seat intrusion into RR occupant's leg area